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AND THE PRACTICAL SCIENTIFIC FARMERS OWN PAPER.

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A LONG ISLAND PRIZE FARM.

IN 1851, and also in 1852, the American Institute awarded the first premium for the "best cultivated farm of one hundred acres" to E. H. KIMBALL, Esq., of Flatlands, Kings county, Long Island. The early part of last month, we had the pleasure of visiting this justly celebrated farm, and think a brief account of it may not be uninteresting to our readers.

The farm contains a little over one hundred acres of arable land, and is situated about eight miles from New York, on the shore of Jamaica Bay, which affords easy communication with the city by water.

The soil is an exceedingly fine, friable loam, with a thin layer of clay lying on a gravelly subsoil, which affords excellent drainage. There is not a stone on the farm. From its peculiar location, sea weed and drift can be had in great quantities, and they are placed in the cattle yards, where they are converted into excellent manure. A considerable quantity of manure is also brought from New York. This is made into a compost with the manure of the farm, muck, leached ashes, bone-dust, etc., the heap being covered with sea weed and drift, which absorb the ammonia. The heap is turned once or twice, till it is thoroughly rotted, and so fine that it can be spread with a shovel without adhering to it. The manure is applied wholly to spring crops, and Mr. K. is undoubtedly right in decomposing it as much as possible, as in such condition it acts with great rapidity, and pushes the plants forward during the early stages of their growth. He attributes much of his success to this method of composting manures; but it must not be forgotten that the soil is naturally rich, and also that *manures are used with great liberality.*

The principal crop raised on the farm is potatoes, the main object being to get them early, while they command a high price. They are planted in rows three feet apart, and from ten to twelve inches in the rows. The land is first plowed, and harrowed till in fine tilth; drills are then opened, and a sprinkling of Peruvian guano—say 50 lbs. per acre—scattered in the drills; the thoroughly rotted, composted manure, previously alluded to, is then spread in the rows, and the seed planted on the manure and covered with the plow. Before the potatoes make their appearance, the land is harrowed for the purpose of breaking the crust and killing the weeds. The cultivator and plow are frequently used, and at the time of our visit nothing could exceed the cleanliness and mellowness of the ground and the luxuriousness of the crop. The varieties mainly planted are the *Early June* and *Blue Mercer*. The former are dug and sent to market before they are fully ripe, and are sold at a very high price. As soon as the early potatoes are dug, the land is planted with cabbage, celery, spinach, or ruta bagas. Celery is very profitable, and the necessary deep tillage and heavy manuring render the soil exceedingly fertile for subsequent crops. Mr. K. had four acres of celery last season, and intends to plant ten acres the present year.

Mr. KIMBALL has two rows of hot-beds, each row about two hundred feet long and nine feet wide, covered with sash. From these beds he has sold this spring over $300 worth of lettuce, and the beds at the time of our visit were occupied with cucumbers, $200 worth having been already sold.

A few acres only are sown with wheat — but such wheat we have not seen elsewhere the present year. It is the *Mediterranean*. Mr. K. formerly sowed the *Bergen* wheat, a variety originating in the neighborhood. It appears that Mr. BERGEN discovered a single head of this variety growing in a field of wheat. He kept it separate, and soon raised enough to furnish seed for himself and neighbors. It was known as the *White Bergen*, and has frequently taken prizes at the Fairs of the American Institute. Unfortunately, during the excitement in regard to the Australian wheat, a few years ago, the *Bergen* was abandoned, and now none can be found. It was an early and everyway excellent variety, and far superior to the Australian, which, in fact, is now little cultivated.

In conjunction with underdraining, judicious manuring, and good cultivation, an *early* and productive variety of wheat of good quality would do much toward enabling us to bid defiance to that

terrible pest the wheat midge, and the history of the *Bergen* wheat should stimulate us to greater activity and hopefulness in our endeavors to discover such a variety.

The crops of timothy and clover on this farm were very fine. The land is seeded down with wheat—the timothy being sown in the fall and the clover in the spring. When the land is once stocked, it is allowed to remain in meadow as long as it will produce, without top dressing, two tons of clean timothy hay per acre, which it will generally do for five or six years. When plowed, it is planted with corn, followed by potatoes, with a second crop of cabbage or turnips. The next year it is also planted with potatoes, and is then sown with wheat and seeded down. Each crop is well manured, except the turnips.

All the stock on the farm is soiled in the yards during the summer—a practice which affords a large quantity of excellent manure, and enables the farmer to dispense, in a good degree, with fences. Of course, it does not follow, because soiling is profitable on a farm contiguous to a large city, where labor is cheap (Mr. K. pays his men from $5 to $10 per month and board) and produce high, that it would pay where land and produce are cheap and labor dear.

Sugar beets, carrots, parsnips, and other roots, are extensively grown as food for stock. They are all sown in drills, after subsoil plowing, and are heavily manured in the drills, great care being taken to have the manure thoroughly rotted and *intimately incorporated with the soil.*

The *profits* of this farm are full fifty dollars per acre; and Mr. K. says he shall not be satisfied till his hundred acres net him $10,000 per annum!

But the excellent system of cultivation so successfully and profitably adopted on this beautiful farm, is not its only feature of interest. We have seldom seen, even in England, a more charming country residence. As you approach the place, an American Arbor Vitæ hedge and an avenue of Ailanthus trees indicate more than ordinary taste. No high wall or exclusive lodge frowns on the weary, dusty traveler. He finds the gate hospitably open wide, and enters the admirably laid out and well kept grounds between two noble specimens of that handsomest of hardy evergreens, the Norway Spruce. Each step along the finely gravelled carriage way reveals some new view of the beautiful lawn in front of a large and homelike country house, surrounded on three sides with a piazza, the pillars of which are encircled with sweet-scented honeysuckles. Let us stop and look at these fine Paulownias, shedding their large blue flowers in rich profusion on the close mown grass; here is the delicate Persian Lilac, and there the rough but handsome *Pyrus Japonica*; to the right is the trunk of a dead Maple tree covered with graceful vines, and in that clump of evergreens nestles a cozy arbor. How pleasing to the eye are these American and Chinese Arbor Vitæs! how handsome those Austrian and Weymouth Pines! Delicious is the fragrance shed by these European Lindens on the ocean air. How handsome and graceful are these pendulous American Elms! how beautiful those Sycamores, Laburnums, and Magnolias! what fine beds of Geraniums, Fuchsias, and Verbenas! Who would reside in the city, even in a mansion on Fifth Avenue, when he could retire from the hum of Broadway and the excitement of Wall street to such a scene as this?

DO CEREALS DESTROY NITROGEN?

The leader in the June number of the *Farmer* leads me to inquire whether the evidence is clear and satisfactory that wheat and other cereals "destroy nitrogen, or ammonia?"

The word *destroy* is not generally used in this country as it is by the editor of the *Farmer*, although it may be in England. A man may "destroy" a house by setting it on fire; the wheat midge or Hessian fly may "destroy" a crop of wheat; but for a barley plant to "destroy" an element of fertility beyond what it contains, is not less a new use of language than a new idea (*a*). Prof. Way was, I believe, the first to suggest that cereals, whose stems abound in flint, may obtain the latter as a silicate of ammonia, which being decompounded, the ammonia escapes into the atmosphere, leaving the silicic acid (flint) deposited as a hard and strengthening covering to the culms of cereal grasses. In this way, more ammonia would be taken up from the soil than an analysis of the whole crop would show—that which has passed through plants into the air would be so much clear loss to the ground cultivated. Nitrogen thus disposed of, is said to be "destroyed," meaning lost for all agricultural purposes, as a return of the entire crop of wheat, corn, barley, oats, or timothy, to the soil, would fail to restore *one-half* of the nitrogen (ammonia) consumed.

To my mind, this theory is alike unsound and unsupported by proper facts. Fairly carried out, it makes nature not friendly, but strangely hostile, to the enduring growth of all our bread-forming plants (*b*); for the restoration of the whole plant is wholly inadequate to preserve the normal fruitfulness of the soil. It must be fertilized with two or three bushels of wheat, in order to produce one! Such a scheme of agricultural compensation goes far ahead of the ancient Babylonians, who, according to Herodotus, raised two hundred bushels of corn (wheat) from one of seed; and of Isaac, the son of Abraham, who raised a hundred fold for the seed planted in Palestine; and of the modern Chinese and Belgians, with their night-soil and other concentrated manures (*c*). As I understand Mr. Lawes' experiments, they prove much less than is *assumed.* They do not show, except by inference, that all, or even the half of the nitrogen which he applied in nitrates of potash, soda, lime and magnesia, and in salts of ammonia, ever entered the

roots of barley grown on his experimental plots (*d*). The readers of the *Farmer* for the last twenty years will bear witness, that I have often called public attention to the fact that the soluble food of plants, like the salts above named, being dissolved in the soil, will go, to a large extent, into ditches, creeks, ponds, rivers and lakes, and also deep into the earth, with the water that forms springs. Two of the most important organic acids, both of which contain nitrogen, (crenic and appocrenic,) take their names from a Greek word that signifies "a spring," from the circumstance that Berselius first found them in spring water. If rain water could not remove fertilizers from clay, sand, loam, and vegetable mold, they would be no better food for grain crops than the most sterile flint, whose insolubility is generally known. The fact must be proved, (not inferred,) that the soil loses, by washing and leaching, none of the manure (nitrogen) said to be "destroyed" by cereals.

I have always contended that tillage alone consumes and dissipates the elements of crops in arated fields. The first breaking up of a prairie frequently renders a neighborhood unhealthy, as I have witnessed in southern Illinois. What causes this increase of ague and fevers, where large areas of rich land are first plowed? Visit the rice plantations in South Carolina and Georgia, and see what the stirring of the ground has to do in the way of augmenting swamp miasma — increasing the decay of vegetable matter. If tillage decomposed nothing, rendered nothing soluble, it would do next to nothing to *increase* the food of plants.

If manure is destroyed in a cultivated field, man, not nature, does the injury. Her laws husband — not destroy nor waste — the elements which constitute our daily bread. The materials which suffice to make one bushel of wheat, or one loaf of bread, are adequate to form another of the same weight. One may feed hogs so much corn, and so badly, that half of it is wasted; and it is easy to feed growing grain in a similar manner. The science of feeding agricultural plants is in its infancy, and Messrs. LAWES and GILBERT are great public benefactors for their distinguished labors to elucidate the subject. D. LEE.

REMARKS. — It was with extreme regret that we were compelled, a few months ago, to differ with our respected friend Dr. LEE, in regard to the "practical utility of soil-analyses." We had hoped that on other points pertaining to the progress of agricultural improvements, our views would be more in accordance with those of our puissant and popular predecessor. If true, the destruction of nitrogen (ammonia and nitric acid) during the growth of wheat, barley, Indian corn, and other cereals, is one of the most important facts which the investigations of modern agricultural science have developed. It affords a satisfactory explanation of the advantages of such systems of rotation as practical experience has induced observing farmers in all ages and all countries to adopt, — and we have no other explanation that does not run counter to some well established fact bearing on the point. The retention of nitrogen by such plants as clover, peas, beans, turnips, lupins, etc., and its dissipation by such plants as wheat, barley, oats, Indian corn, etc., is of itself sufficient to account for the fact that the cultivation of the former plants improves a farm, while the continued cultivation of the latter rapidly impoverishes it. Let us, however, examine the objections of Dr. LEE to this doctrine of the destruction of ammonia by the cereals.

(*a*) In chemistry, to *destroy* is to resolve a body into its parts or elements. In this sense, it is impossible to destroy nitrogen, which is itself an element. But when speaking of manures, the term nitrogen, for obvious reasons, is often used instead of ammonia, or nitric acid. Dr. LEE himself *often uses it in this sense.* In the article which Dr. LEE essays to criticise, we say "it is quite evident that the principal substance required for the growth of a large crop of barley, as of wheat, is nitrogen (ammonia)." Again: "An application of nitrogen (ammonia) always gave an increased yield of wheat." It is plain, from these extracts, that when we spoke of the destruction of *nitrogen*, we referred to *ammonia* or to *nitric acid;* and this Dr. LEE knew quite well. To speak of the destruction of ammonia or nitric acid, is not a "new use of language." WEBSTER, as well "in England" as in "this country," is acknowledged to be good authority, and he defines destroy — "In *chemistry*, to resolve a body into its parts or elements." Now, if plants resolve ammonia into its elements, hydrogen and nitrogen, they may be said to "*destroy*" ammonia.

We believe cereal plants dissipate ammonia; but whether they first decompose it, or not, we have at present no satisfactory evidence. It is probable that such is the case. Under such circumstances, is it a new use of language to say that plants destroy ammonia? Dr. LEE himself, in an article in the Patent Office Report for 1852–3, asks:

"In what way can the natural resources of the soil be best preserved from injury and saved from *destruction?*"

Now, the "natural resources" referred to, are the elements of plants in the soil, including nitrogen. On another page of the same article, the Professor again says:

"It is right and proper for each generation to use all the natural resources of the earth; but for any one generation to *destroy* or seriously injure them, is a wrong of the gravest character, and of inestimable magnitude."

And yet again, in the same article:

"This statesmanship which ignores the very existence of agricultural science, and repudiates all its teachings, costs the country three hundred million dollars a year by the needless *destruction* of its agricultural resources."

Why our friend the Professor should object to our using a word in the same sense as he himself uses it, we are somewhat at a loss to determine. Perhaps since he wrote the article we have quoted, he has discovered a better word. If he has, we should be happy to adopt it.

(*b*) This appears to us a very poor argument. The assertion that cereal plants destroy ammonia, rests on the most careful, extensive, prolonged and systematic series of experiments that have ever been made in any country or in any age. But Dr. LEE does not credit it. Why? Because it "makes nature not friendly, but strangely hostile to the enduring growth of all our bread-forming plants." For the same reason, the Professor might deny the existence of "thorns and thistles," of the wheat-midge, or the pear-blight. "In the sweat of thy face shalt thou eat bread." To grow "bread-forming plants" is not an easy task. "Nature" is not, *at first sight*, "friendly" to it. The soil does not throw up wheat as readily as it throws up weeds. But the means necessary to destroy the *weeds*, pulverizes the soil and renders it more fertile, and the *wheat-midge* will make us underdrain and enrich our lands. Nature is only *apparently*, not really "hostile." "The *foolishness* of God is wiser than man." Those laws which *appear* foolish and "hostile" are infinitely wise and "friendly." Substances which contain *nitrogen*, when left exposed to the air, rapidly decompose and give off gases which, more than all others, are injurious to animal life. If nature was friendly to the growth of bread-forming plants — if they did not require a greater supply of nitrogen than the atmosphere could supply — where would be the inducement to collect and preserve these substances?

Again, this unfriendly law prevents any one generation from exhausting the soil of the elements of plants. To grow large crops of bread-forming plants, we require in the soil a large quantity of ammonia; but there is no natural way of furnishing ammonia, which does not at the same time furnish a proportionate quantity of all the other ingredients of plants. Slovenly and careless farmers *impoverish* their land, but they can not *exhaust* it. A few years of judicious management will restore it to its original fertility. This talk about the farmers of the United States destroying "three hundred million dollars" worth of the ingredients of plants every year, is sheer nonsense. We believe the soil of the United States will be as productive a hundred years hence as it is to-day — and this owing to the very law which the Professor considers "strangely hostile to the *enduring* growth of all our bread-forming plants."

(*c*.) Professor, you are dreaming. You deny the destruction of ammonia by the wheat plant, because it would follow that a soil "must be *fertilized* with two or three bushels of wheat in order to produce one," and then, to show the absurdity of such an idea, you say that the ancient Babylonians "raised two hundred bushels of wheat from one of *seed*." You forget that we are talking of *manures*, not *seed*. The facts stated, if true, are interesting, but they have not the remotest bearing on the point under discussion.

The elements contained in a bushel of wheat can be purchased for ten or fifteen cents, and that in a condition better suited as a manure than would be the wheat itself. Does the Professor think that ten or fifteen cents worth of manure will produce an extra bushel of wheat? If he does, we assure him he has only to make the experiment to become satisfied of his error. Plow under a crop of wheat that would yield fifteen bushels per acre, and then sow the land again to wheat, and your next crop would not give an *increase* of fifteen bushels of wheat per acre; plow under a good crop of clover or peas, and you might obtain an *increase* of fifteen bushels of wheat per acre; and this owing to the fact that wheat destroys ammonia, while clover and peas do not.

(*d*.) It is true that we did not *see* the ammonia enter the roots of the plants. But if on one acre, an application of 25 lbs. of ammonia gives an increase of five bushels of wheat, and 50 lbs. on another acre, ten bushels,—75 lbs. fifteen bushels, and 100 lbs. twenty bushels;—if, in short, the increase of wheat is in proportion to the ammonia supplied as manure, it is fair to assume that the ammonia is the cause of the increase. It did not increase the crop by rendering phosphate of lime or other mineral or organic substances in the soil soluble, for an application of soluble phosphate of lime and all the other mineral and organic ingredients of plants, (except nitrogen — ammonia — or nitric acid,) did not increase the crop. The ammonia, therefore, *must have been taken up by the roots of the plants.* Now, the plants did not contain more than about *one-fifth* as much nitrogen (ammonia) as was supplied in the manure. We conclude, therefore, that they had dissipated (thrown off into the atmosphere) four-fifths of the ammonia taken up by the roots. Dr. LEE thinks that the plants only took up one-fifth of the ammonia supplied in manure, and that the other four-fifths was washed out of the soil. Now we cannot conceive how the rain should wash out of one acre of soil 20 lbs. of ammonia, and leave 5 lbs. for the use of the plants,—out of another acre 40 lbs. and leave 10 lbs.,—out of another 60 lbs. and leave 15 lbs.,—and out of another acre 80 lbs., and leave 20 lbs. to be absorbed by the plants. The increase of wheat was in proportion to the ammonia supplied as manure;

the loss of ammonia was also in proportion to the increased growth of the plants. The increased growth, we have shown, was caused by the absorption of ammonia by the roots of the plants; the loss of ammonia must have been caused in the same way, and not by leaching.

SUGGESTED ITEMS.—No. 22.

A WEEK without much rain, gives "a time to plant corn," and we, with the rest of mankind, are seeking to improve the same. With what glorious summer days does June, this year, come in!

"*Special Manures,*" and the theories connected therewith, have received their quietus; but this is far from proving that experiments may not demonstrate the special requirements of particular crops. I am glad to see your remarks on the question, and your defence of Messrs. LAWES & GILBERT, for this is not the first time Prof. J. has insinuated the same thing to their prejudice.

"*American Agricultural Books,*" again. If you mean by "*dissolving* bones," merely bringing them into a state of pasty powder, the assertion that it can not be done "in moistened ashes," is incorrect in regard to some bones which I have so treated. The softer and more porous bones were brought to this state—the very hard ones were but little affected, even after lying months in the ash heap. Your commendation of Prof. NASH'S little book is well deserved.

"*The Good sells the Bad,*" we have found to our sorrow, and the bad often spoils the sale of the good. The question still remains, "What can we do about it?"

Another Wheat Worm!—surely, we must be in earnest in our search for a "substitute for wheat growing." Yet, it may be that farmer JOHNSTON'S salt will settle the mischief.

"*Permanent Grass Land*" is well managed by our Tennessee M. D. I would particularly commend the idea of changing pastures frequently. I know that cattle, sheep, and horses, thrive better when they can have several pastures to graze in rotation, not staying in one more than a week at once—varying, of course, with the character of the grazing and amount of stock to consume it.

"*A few Thoughts*" from Mr. LYMAN will, we hope, be followed by others from his pen. To "make *a good farm*" on our best land, requires both skill, system, and the "gift of continuance"—or patient following out of well-directed efforts for improvement. Clear land, drained land, and plenty of good manure, all faithfully employed, fill barn and pocket.

"*Harrows and Harrowing*" might be further illustrated, for forms of harrows are almost endless. The same is true of

"*Racks for feeding Cattle.*" The main thing is to have the fodder and a comfortable place for the cattle to consume it.

"*Feeding Calves*" requires some judgment;—so I concluded this morning, as I saw my calves shivering after imbibing a gallon of cold milk each. They must have it warmed a trifle hereafter. I am putting in a good handful of barley meal for each calf—to their manifest improvement. Let the meal be bolted or sifted, as the bran is harsh and coarse.

"*Do we stir the Soil too much?*" is scarcely a question on our argillaceous soils; but Mr. JOHNSTON might have included SANFORD HOWARD, with Dr. LEE and Mr. BILLINGSLY, as among those who think there is danger in this direction. Did you ever notice how frequent the occasion which Mr. H. takes to remark on the error of agricultural writers in recommending deep and thorough cultivation too indiscriminately?

"*Cheap Luxuries.*" Good doctrine. Friend HOOKER, don't be discouraged in your labor with us, unappreciative "sons of toil." The gardens are extending, year by year—a taste, now and then, of these "luxuries" begets a "hankering" after them which will set us at work in earnest, by and by.

Niagara Co., N. Y., June, 1858. B.

NOTES FOR THE MONTH.—BY S. W.

CAN PLANTS ABSORB NITROGEN FROM THE AIR?—Although the experiments of M. VILLE favor such a theory, not only the long labored experiments of BOUSSINGAULT and others disprove it; but if VILLE'S theory is true, it can only extend to the quantum of nitrogen found in the composition of the plant, and by no means that supply of ammonia required to fit and prepare the soil to give maximum crops.

THE EDITOR OF THE GENESEE FARMER'S EXPERIMENTS WITH PHOSPHATE OF LIME.—Methinks those experiments, so carefully made, go far to confirm the previous consecutive experiments of J. B. LAWES, at his experimental farm in England, to wit: that phosphoric acid is better suited to the growth of turnips and the herbaceous grasses, than to the cereal grains; and I believe that the correctness of the theory proved by LAWES' numerous field experiments, that phosphoric acid is the special manure for turnips and not for wheat, has never yet been disproved by any authentic trials. It is now generally conceded that LIEBIG'S attack on the Rothamsted experiments and theory amounted to nothing more than pertinacious and very ingenious special pleading.

THE MANAGEMENT OF PERMANENT GRASS LANDS.—F. H. JORDON, of East Tennessee, contributes to the last *Farmer* one of the best articles on this subject I have read for many a day; and his theory, although perhaps not suited to the elevated grass regions of this State, is the more especially feasible in the calcareous or limestone soils of western New York.—It is too much proved that the deterioration of the value of the soil of western New York is more owing to the neglect of grass-growing than to any other cause. To say nothing of clover-growing as a manurial necessity, so much neglected or so imperfectly carried on, there is no crop the farmer grows to compare with grass in profit, since the failure of wheat and the low price induced by the present avalanche of wheat from the western prairies. Beef, mutton, and butter, have been and continue dear; and cheese is so much dearer in proportion to every other farm product, that even some of our hundred acre farmers complain of its price, and say that they "can't afford to buy it any more,"—a precious though strange confession for a farmer to make, who can hardly keep down the grass among his corn! Only think of the pigs that may be grown on clover, sour milk, and whey! How many of our farmers keep only a few cows,

and those of poor quality, and very few sheep.—When I hear a farmer say, "My cows are poor this spring, and don't make much butter," the spectacle of mouldy straw and no hay comes up before me! How cruel to the poor bovine—how unprofitable to the farmer!—I got a letter the other day from a happy farmer, who, on his hundred acre farm, plows but from four to six acres; I call him rich, because he is out of debt, and his wealth is in the unexhausted soil of his farm, no less than in the simplicity of his wants. He says that his farm is now richer and will bring larger cereal crops than it would thirty years ago. True, our hundred acre grain-growing farmers made money faster than this man twenty years ago, but it was done at the expense of their soil, and where is their money now, and what is their land? Verily, they have eaten the calf in the cow's belly! How few men ycleped farmers, estimate the difference between their farms as they were and as they are.

The New York Distillery Cows.—There is, as the Spaniards say, "*cosas cuidado*" enough in the confinement and ill-treatment of these cows, to warrant the present excitement against swill-milk, without arraigning the analysis of the slop. And the assertion that such milk will not make butter, is as untrue in practice as it is in theory; we might as well say it would not fat beef or pork. The slop is certainly as rich in oil, phosphate of lime, and all the protein compounds, as hay or grass. It has lost nothing by distillation but the starch of the grain, which has gone to sugar, and then to alcohol. And this starch may be compensated for by small rations of good hay or grass. In proof of it, hundreds of cows were kept on still slop here, and in this vicinity, all last year and a part of the year before, and they never gave more milk or that made more butter. The fact that such milk does not coagulate as soon as other milk, is in its favor, at least for edible purposes in the cities and large towns. But the most farcical charge is italicised in a New York daily, as one of the *gravest*, to wit; that the cows are never treated with fresh water; just as though a cow could be compelled to drink water when she could get slop.

An Improved Tile Machine.—There is a Tile Machine made at Latourette's Foundry, in this village, which moulds seven hundred tile an hour; two horses are hitched to a sweep or wooden shaft, that turns the mill and presses out the clay through dies, five on a side. It is a cast iron machine, cost $270. One is now in operation at Union Springs, Cayuga county, and another at Penn Yan.

The Good sells the Bad—Thereby giving no encouragement to fine wool growers or good butter makers; so says J. C. Adams, in the last *Farmer*. But all this is about being changed now; for truth with its leaden heels has not failed to overtake and overthrow rampant error. Fine and well made butter now brings its price in New York, while thousands of mixed firkin butter sells for grease. The same with wool. "You are getting very particular," said a farmer to a wool-sorter here the other day. "You used to give me nearly as much for coarse as for finer wool, and I got rid of my finest wooled sheep." The fact is that our Eastern wool-buyers, through their agents, have, as Mr. A. asserts, taught the farmer bad tricks, which it will be for his interest now to abandon, as it will be a long time probably before wool-buyers will get crazy again.

—In my last "Notes for the Month," I adverted to the lands on the central plateau of Long Island, advertised in the last *Farmer* for sale by Dr. Peck, at the very low price of $20 the acre. I have just received a letter from Dr. Peck, saying, in proof that said lands are not deteriorated by a sea-washed sub-soil, that fifteen years ago this tract of land was heavily timbered. He also demonstrated that no other tract of the earth's surface had been so thoroughly misrepresented and foully slandered, not only by the Long Island farmers generally, but by the grave historians of the Island, who could give no other reasons for their opinion than common report. He now avers that the statements made in his advertisement cannot be controverted, and that the land in question needs no organic or mineral amendment, to enable it to bring even large crops of grass and grain, as late experiments have fully proved.

Waterloo, N. Y., June, 1858.

GRASS CULTURE.

That "he is a benefactor of his race, who makes two blades of grass grow where but one grew before," is very readily admitted, and yet how few are the farmers who make grass culture the direct object,—who give meadows and pastures the attention they need—the attention which they would repay so profitably. The fact is, the grasses get little or no culture; we sow only clover and timothy, (sometimes applying plaster to the latter,) which is about all the care given, or fertilizing material applied. We take from them, however, less scrupulously, hay and pasture, early and late,—demanding much and bestowing little upon our ever-patient grass lands.

The farmer—and our "*Farmer*"—ought to give more attention to the subject. We lose much by *spreading our grass over twice the land it need to occupy*. Culture and drainage would more than double the average yield of grass throughout the country. A knowledge of the characteristics and value of the different varieties which we should grow would be valuable, and this our "*Farmer*" should give us, and urge the subject upon the attention of its readers. I would attempt the task, myself, but I have grown only the two varieties named above, save as self-sown upon my meadows.

As to clover—on all land suited to its production—it should be sown with every grain crop; and with me, its growth is more certain, as well as largely increased, by a top-dressing of plaster—one bushel per acre—as soon as it appears above ground. It succeeds best with winter wheat or rye, oats and barley having a thicker undergrowth of leaves.—Last season we sowed plaster on part of a meadow seeded to clover three years since, and now, of course, nearly all June grass and timothy, and were surprised to see a heavy growth of clover wherever the plaster was applied.

Manure—well rotted is best—will not injure the yield of grass, if applied at almost any season; we would try it after harvest—spreading and harrowing, and putting on grass seed, if necessary. Brother farmers, give us your views on *grass culture*.

B. F.

APPLYING ARTIFICIAL MANURE TO CORN.

EDITORS GENESEE FARMER:—I was much interested in the account of your corn experiments; but in reference to some of the manures at least, I do not think they were rightly applied to get at the truth of their comparative value. In putting the manure in the hill, we may do good or we may do injury. We may do good in a cold, heavy soil, by an application in the hill of any manure that will give an extra early start to the corn, thus enabling the soil to bring out a large crop to maturity before frost; yet that stimulation in the first start would not prove the real strength or value of the manure. Then in the application of such manures in the hill, the roots at the first start get a large portion of it, but very soon the roots run far away from the manure,—leaving, mayhap, the most of the strength of the manure to some other purpose than bringing out a corn crop: so we fail again to prove the real strength or value of the manure. Then in a light, sandy soil, we may do injury by starting the corn too fast, so that the soil is not able to keep up the rapid growth; it then, as farmers say, *scalds*, turning yellow around the bottom, very likely as high up as the ears: the consequence is the crop is worse than it would have been without manure. This case would be a very unsatisfactory proof that the manure, in itself considered, was worse than nothing; it would only prove want of proper application.

But my present intention was to give my mode —and I think it a very good one—of applying artificial manures on light or sandy soils. First plant your corn as usual, then, as soon as it is large enough to see the row well, start the plow in it, throwing the soil from the hill, and going as near as possible to the corn without disturbing it. This is our mode of tending corn in this section, without any reference to applying manure, and is a very good one. The ground has a fair chance to get warm at the roots of the corn, which is much advantage, especially on heavy soils: you can begin much earlier, so as to keep grass and weeds down. Then on light, sandy soils, the roots are thrown down deeper, running under this furrow, so that when hot burning suns come the roots do not lie near the surface of the ground to burn up, neither are they so much destroyed by the plow in after culture. Now when you are ready to start the plow the second time, say 10th or 15th June, apply your manure in these furrows the whole length from hill to hill, on both sides of the row. If a light soil, the furrows should be pretty deep, because the deeper your manure the deeper the roots will be and more out of the way of plow and drouth. Then as fast as you apply the manure, throw the soil with the plow from the middles over it. In a short time the roots will run by thousands to these furrows of manure, just the same as pigs to a well filled trough; for it is just as natural for the roots to seek food, as a new born calf or lamb. By this mode you have a fair chance for the corn to get all the strength of the manure, and on a light soil the manure is serviceable just at the right time, that is to bring out a crop; for much artificial manure is applied at a loss, from the fact that it is applied at the wrong time, or not enough in quantity to bring the crop to perfection. One season, in putting some hen manure on after this mode, much of it was in large lumps; in cross-plowing afterward, many of these lumps were plowed up, from not having been put in deep enough, and they were almost filled with corn roots, right in the solid hen manure. While on either side the corn scalded badly, where the hen manure and guano were applied it kept green to the ground. The guano paid at 62½ cents per bushel for corn; the hen manure I kept no account of, as to cost or quantity. The guano was applied at the rate of 400 lbs. per acre.

Holmdel, N. J., May, 1858. J. C. TAYLOR.

HOED CROPS—CLEAN CULTURE.

EDS. FARMER:—Allow me to urge a few reasons on our brother farmers, for increased attention to the clean culture of hoed crops. At this hurrying season of the year, when so many things demand thought and muscle, we are pretty apt to omit doing all that which may be neglected, from not giving due consideration to its importance. We may do well as far as we go, but the failure in going quite *far enough* hinders materially our getting the full benefit of the labor, manure, seed, &c., already expended.

Some farmers "weary in well doing" before they arrive at hoeing. They toil hard to prepare a field for corn or roots; manuring freely and plowing well, getting the land in capital order. We feel like saying, "Keep on, you're doing well," for a good crop seems in fair prospect. But it is rather late planting, so they get a gang of hands—men and boys—and plant in a "hurry-skurry" sort of a way—rows irregular, the seed covered very deep where the soil is mellow, and with sods, lumps and stones where it is hard, so that the looker-on should cry, "Hold on, you're doing a bad job." And such they find it when they try to cultivate; it has come up very unevenly and with irregular rows—many hills proving a total failure. Too busy to re-plant, loss is suffered which a little more care might very profitably as well as easily have prevented.

Haying and harvest will soon be upon us, and of late years they seem to come right in "hoeing time," but we would remind those who would raise corn or roots, and so far have done everything in good style, to weary not, but patiently continue their labors. We must remember that "growing weather" is as favorable to the growth of *weeds* as of valuable plants, and that on *no account* should we neglect to give clean culture to our hoed crops. Let us keep the cultivator going among them, if no more, so as to keep the soil light and clean, even if we have to hire an extra hand in the hay-field.—We are apt to forget how much cultivation has to do with the early growth of corn—with its "getting a start," so as to be able to feed itself from the food supplied in the soil. This is also true of potatoes—and we may add, beans, since our last year's experience in being hurried away into haying and harvest before finishing the hoeing of the whole crop. Had we hired it done, at two dollors per day, we should have made money in the increased product, as shown by the *clean* cultured over the weedy part. And what farmer cannot look back and see when he "missed it," in not being more thorough, even though it seemed as if he "couldn't afford it," at the time?

Let us urge the matter still. A few days in *finishing up* the culture of our hoed crops—which

should all be done by the time they get one quarter of their growth — is of vast importance in securing a well-ripened and heavy yield, and should by no means be omitted. We must not fail here, for these are important crops, and midsummer is *the pinch* with them as regards their value,— especially corn, which the frost hardly gives time to ripen, when the planting season is delayed as of late years.

Niagara Co., N. Y. J.

CULTIVATION OF THE SWEET POTATO.

Editors Genesee Farmer:—In the April number of your valuable journal, you state that you "have received frequent inquiries as to the feasibility of the sweet potato being cultivated in your vicinity." To this inquiry I will give the answer, positively and affirmatively, that, by pursuing a proper course, they can be raised in the greatest perfection in any part of your State, and, in my opinion, even in a much higher degree of north latitude. To this seemingly dogmatical opinion I have arrived as the result of an experience of my own; and with a wish to contribute something that may add to the general comfort of man, I here give it, as follows:

At the time I commenced house-keeping, my place of residence was Asheville, Buncomb county, N. C.—a high, cold country, west of the Blue ridge, and 4,500 feet above the level of the Atlantic. The first successful attempt to raise the sweet potato in this county was made by Dr. Swain, a gentleman from Massachusetts. This he did by means of hot-beds; and the mode is now generally understood and practiced. The 1st of June, the Dr. informed me that, having made his hot-bed unnecessarily large, and after taking all the plants from it that his grounds required, there was a large portion of his bed from which he had taken no plants, and if I wished to plant, I could there get thousands. On examining the bed, I found it covered with a dense mass of vines, of all lengths, from fifteen inches down. I considered them too large for transplanting, and should have given the subject up had I not had my hills made — round hills. A bright idea flashed upon my mind, and I concluded to let the idea develop into an experiment. It was this: I had all my hills truncated, taking them off about half way between the apex and the ground. I then procured a hand barrow and a broad shovel, and after digging away the earth from one side of the hot-bed until I got completely below the stratum of soil in which the potatoes were imbedded, and sufficiently deep to be below all the roots and fibres, I ran the blade of the shovel in horizontally and took up the whole mass—vines, potatoes, roots, and all,—in doing which I was compelled to divide the mass into convenient sections, so as to get it upon the barrow. This I transferred with great care, so as to separate as little soil from the young roots as possible, and, having plenty of material, I divided the bed into sections to correspond as near as possible with the size of the truncated hills, and thus restored to them tops, containing the earth of the hot-bed, which was about ten inches thick, and in this the parent potato, the vine, and young roots. I then scraped the earth up round the hill where the two sections joined, gave them a copious watering, and, to use an expression of a young man who lived with me at the time, they seemed never to know that they had been removed from the doctor's garden. By the last of August they were fully grown, and larger potatoes, or of a better quality, I have never seen in either South Carolina or Georgia. They were of the ridged Spanish variety. The soil they grew in was sandy loam, enlivened with wood ashes.

The secret of my success is this. Plants taken from a hot-bed, remain stationary for fifteen days after being set out, and after that advance slowly; whereas, my plants grew all the time, and kept a week ahead of Dr. Swain's, up to the time of maturity.

Silas M'Dowell.

Franklin, N. C., May 20, 1853.

STIRRING THE SOIL AND TURNING MANURE.

I am surprised that Mr. Johnston should have so misunderstood my remarks on the subject above named, as he appears to have done by his comments. When I said that farmers generally plow too much, or stir the soil too much, I had reference to the extent of surface gone over, not to any excess of cultivation in preparing land for a crop.— According to the last census, the farmers of New York plow, harrow, plant and hoe an average of about five acres to raise one hundred bushels of corn; while the writer believes that it would be better economy to grow a hundred bushels of corn on an average of two acres, and thus save three-fifths of all the land planted in corn, in a great State, for other agricultural purposes. As most farmers know that a heap of manure grows smaller by being frequently turned over, especially when exposed to rains and sunshine, as is the vegetable mold in a corn-field, I referred to such treatment of manure to illustrate the certain loss of organic matter in a soil by cultivating five acres to obtain crops which ought to grow on two acres. My idea is, that farmers not only lose much honest, hard work, by going over too much land with the implements of tillage, to obtain the crops harvested, but that the practice tends to consume and waste all the elements of fertility in the soil. Ground that has but few and feeble plants, whose rootlets fill not a tenth part of the stirred earth, loses the largest per cent. of the constituents of crops, as compared with the harvest. A gallon of milk a day will raise a fine pig; but dilute this gallon of milk in a hogshead of water, and whether you give a gallon of this milk-and water, or force through the pig the whole of the dilution, he must be a lean hog at last, and most of your milk will have been wasted. Rely upon it, thoughtful reader, most of us render the food of plants too diluted in the earth we stir with the plow; and at the same time I would caution you that it is quite as easy to run into the opposite extreme, as do a few farmers in England, who over-feed alike their live stock and growing crops.

D. Lee.

To Protect Cucumbers and Melons from the Striped Bug.—Take a small piece of paper, put it on the ground in the centre of your hills, and lay a small stone on each corner to keep it fast; then put on it two or three pieces of gum camphor as large as a pea. Renew the camphor when it is gone, and I will ensure the plants against injury from the bug. J. T. Sergeant.—*Sand Brook, N. J.*

SEEDING CORN FIELDS TO GRASS.

EDITORS GENESEE FARMER:—Perhaps an account of the method of seeding corn fields to grass, as practised in New England, may be of interest to your readers. I find the first mentioned instance in the statement of Mr. WOOD, of Middlesex, to the Co. Agricultural Society, as given in the "Agriculture of Massachusetts," for 1854.

The soil is principally light pine plain land, and had been "cropped to death with rye." To get pasturage that should be productive, Mr. WOOD plowed field after field, planting to corn for one or two years, with manure, and then seeding to grass while the corn was still growing on the ground.—He plowed from seven to eleven inches, according to the nature of the ground, wishing gradually to deepen the soil. To enrich it, he gave from twenty-five to thirty loads of compost manure per acre, plowing it in with a shallow furrow on inverted sod, and hill-manuring with a small quantity of guano and plaster, or hen manure, ashes and loam. The crop was hoed level twice, and then six quarts of herdsgrass, one peck of redtop, and five pounds of clover seed were sown per acre. It was again hoed to cover the seed, and then "laid by" for the season. In this way, for five years, he has averaged forty bushels of sound corn per acre. If the grass fails in part, he scatters more seed in spring and brushes it in, and has laid down nearly all his high land in this way, because of the saving of labor. His meadows are on his low land, and keeping cows for selling milk is the principal business of the farm.

Another farmer, whose statement we find in the *New England Farmer* for May, followed the above plan, nearly,—though, perhaps, taking more pains in the preparation of his ground,—but the season being hot and dry, the grass seed was an entire failure. His ground being clean and smooth, he did not like to plow up again without another trial, so when the ground froze enough to hold the stumps of the corn-stalks firmly, he took a sharp hoe and cut them off even with the surface of the ground, raked off the rubbish, and sowed half a bushel of herdsgrass and a bushel of redtop seed on the acre. "The next spring," he says, "as soon as the weather became warm enough, the grass came up beautifully over the whole piece. The summer was wet and warm, and I cut more than a ton and a half, per acre, for the first crop. In 1856 and 1857, I had three tons per acre, each year, and rowen enough to make the whole amount, in the two years, not much short of seven and a half tons."

This, and several other experiments, convinced the writer last mentioned, that *late* fall seeding—so late that *the seed would have no chance to vegetate till spring*—was the best method of getting land to grass for meadow or pasture. Equally important to successful culture is thorough preparation by tillage and manuring, plenty of grass seed, and opportunity to grow without feeding or mowing too severely.

A YOUNG FARMER.

HARROWING TURNIPS.—Where turnips are sown broadcast, they may be safely harrowed when the seed leaf is coming out. This will check the weeds, thin the turnips, and yet leave plenty in the ground for a crop. J. N.—*Nassywega, C. W.*

CORN GRUBS.

EDITORS GENESEE FARMER:—Our weather continues very wet here, and in all other places I hear from. Corn, I think, is all planted hereabout, and what the grubs have left is growing; but they are making sad havoc in some fields. A neighbor who had nearly thirty acres planted, has been planting it over for some days past. Grubs (grey) are in immense numbers. He left three bags in the field, night before last, with a little soaked corn in each, and yesterday morning 200 grubs were found in the three bags, among the corn. This beats all I ever heard of about grubs. Seventy-two of the largest grubs I ever saw, were taken out of one bag. What is very singular, they don't cut off the corn above the ground, like the grubs we have been accustomed to, but cut the roots below the seed. Can it be a new kind? Do you know of anything that resembles it? The old-fashioned grub has cut off a little of mine above ground, but the like of those which destroy my neighbor's, I never saw. If the agricultural papers don't inform us how to destroy grubs and worms, we must stop them; for if we are to have all our crops destroyed in this way, we will have nothing to pay with. One of my neighbor's fields was old pasture land, the other had been only one year in clover, and both were damaged about alike. Mine was old pasture, and only a little, so far, has been cut off above the ground. My neighbor's grubs (if grubs they are) are much larger than mine, but otherwise apparently alike. I advised him to take all the bags he had, put soaked corn in them, and lay them over his fields, and possibly he might have a few thousand bagged this morning.

Our wheat harvest will not be so early as we expected. Should the weather set in dry, we may have wheat harvest about the 14th of next month; still, we may not till 18th or 20th.

Near Geneva, N. Y., June 10, 1858. JOHN JOHNSTON.

CURE FOR BOTS IN HORSES.—Take a tablespoon full and a little heaped of alum and the same quantity of copperas, pulverise them fine and put them into a pint of vinegar. Pour it down the horse's throat. It will generally afford relief in five or ten minutes. In 1813, I had a horse very badly afflicted for three days, with bots—lying down, rolling, refusing to eat, biting his sides, and giving all similar proofs of bots. I tried turpentine, beef brine, sweetened warm milk, and many other prescriptions of neighbors, for three days, to no purpose. At length, an Englishman coming along gave me the above prescription, saying he had seen it used in England with perfect success. In ten minutes after the dose was administered, the horse got up and was well, showing no more symptoms of bots. I have used the same medicine ever since, for myself and neighbors—propably in fifty cases in all—and it has always afforded as quick relief. A traveler once had his horse fall in the snow, near my house, and refuse to get up—evidently afflicted with bots. In about five minutes after administering the above medicine he got up of his own accord, appeared to be perfectly well, and cheerfully pursued his journey. It is said one drop of this preparation placed upon a bot, will kill it at once. J. F. BLISS.—*Churchville, N. Y.*

ADVANTAGES OF MOWING MACHINES—ONCE MORE

EDITORS GENESEE FARMER:—It appears that the difficulty of answering some statements of facts made by me in a late number of the *Farmer*, while revising the calculations of Mr. STREET, of Ohio, on the subject of mowing by machinery, has been shifted from that place to the half-rural, half-citified district near Geneva, and Mr. JOHN JOHNSTON, of that place—the highly respectable and at many times influential contributor to the *Genesee Farmer*—has been encouraged by his friends and neighbors to write out an article, in reply to mine correcting the machine calculations of his friend in Ohio. I think that Mr. J. is usually a very good correspondent for any paper, and we have all known him to write cleverly at times on the subject of Agriculture, and can hardly account for the variation so noticeable in his communication that is now receiving a little attention. But said an old lady once, when she was asked how in the world it happened that she would sometimes take up and argue the case for those she knew were so clearly out of the way, "Why, bless you all, don't you know that I once in a while say and do silly things *myself*, and then I want somebody to take my part!"

Were it necessary to adduce any further argument to show the impropriety of bringing into general use the mowing machine as a saver of labor or money, in the State of New York, I should be scarcely willing to again trespass upon your time and space, and since Mr. J. rests their side so easily, we will—as the lawyers sometimes say—submit ours without any argument also. We are right glad that the good cause of temperance has prospered so well out "near Geneva," and just as soon as that has worked out a sufficient reformation, we are greatly in hopes that the right means will be used to bring Mr. J. and his kind neighbors entirely "out of the woods" in regard to the way in which they should labor with their hands, and not, as soon as they have been saved from the practice of squandering their money for one useless thing, go to "——"-ing it away for another—getting a mowing machine, and then go about talking "long and loud" *again*, while their poor horses stay at home, doing all the work.

And finally, if our much esteemed friend from near the smooth waters of Seneca Lake does not get better in his mind soon, in regard to the educational privileges and general advantages enjoyed by the farmers of Chenango county, let him come out this way with his Ohio friend, when he comes along to admire the way we make the hay in Old Chenango. Yes, come on, gentlemen, and take a little benefit in the society of those who are content to get along in the somewhat slow but sure way, and you will find that we are not far behind the times, especially if it should be your good fortune to drop into one of our snug farm-houses at the end of the season, when the hay and harvest are gathered in, with all useful farming implements generally—excepting here and there a *mowing machine*, as usual, left out and sticking up through the top of some snow-drift. But within our gates you will find much of contentment and prosperity, where we have an abundance of fine sleek animals and general plenty without, and—most of us—tolerable comely wives, with quite a sprinkling of fat babies, within doors. And for the part that makes us talk "long and loud,"—if we do so at all—we usually keep in our cellars, for winter use, a few barrels of our excellent cider,—good enough to make our friends wish their necks almost as long again when they have the good luck to drink a little of it.

And lastly, we are confident that the man who lives nearest to, and best complies with the golden rule, drawn from the high decree of an all-wise Providence, "In the sweat of thy face shalt thou eat thy bread,"—the mandate that has transformed our rolling sphere into a world of industry and diligence—is on the safest side, and will succeed the best through life, though our friend JOHNSTON may write ever so much against him and his industrious habits, even if he is put up to it by every soul in his whole neighborhood—no matter how much *they* may have been benefitted by the machine reformation, and no matter how great the necessity for such a reformation may have been.

Oxford, Chenango Co., N. Y. E. A. BUNDY.

EDITORS GENESEE FARMER:—I had quite a long letter penned in reply to Mr. BUNDY's remarks on labor-saving machines, "mowing machines in particular," when the May No. of the *Genesee Farmer* came to hand. Mr. JOHNSTON very properly handles those remarks and their author without gloves, since which very little more appears necessary.—That any farmer should, at present, entertain opinions so much opposed to the interests of the agricultural community, is truly surprising. Mr. B. asserts, indirectly, that labor-saving machines exert a demoralizing influence. His system of reasoning would set us back on a level with the red man who once hunted in our forests for his sustenance. It would obliterate at a stroke all the improvements of the present age. It would hush forever the hissing of that mighty agent, steam, and leave dormant and undeveloped all the inventive genius which God has given to man, for the purpose of ameliorating his condition. But does labor-saving machinery exert a demoralizing influence? Should some person, by the aid of his pen, make an improper use of a neighbor's name, would Mr. B. conclude that his knowledge of penmanship was the cause of his committing forgery? Certainly not. It would be more rational to conclude that his principles were already corrupt, and developed themselves through his knowledge of penmanship. Hence, if Mr. B.'s neighbors are prone to idleness and given to drink, let him improve their condition by enlightening them,—after which an agency for the sale of mowing machines in his district will be profitable. M. GARNSEY.

Middleburgh, N. Y., May, 1858.

REMARKS.—We are sorry our esteemed correspondents, in this discussion, have wandered from the point. The temperance question has nothing to do with the mowing machine question. If it is cheaper to cut grass or grain by machinety than by hand—as we believe it is—let us have the *facts*; and if it is not—as Mr. BUNDY contends—let him give the reason for the faith that is in him. EDS.

HOW TO SOW GRASS SEED.—We wet our grain, and then stir the grass seed into it. Sow while wet. It will sow more even in this way than in any other that we ever tried. H.

MANAGEMENT OF BEES.

The hive should be made of sound boards, free from shakes or cracks, and planed smooth outside and in, made in a workmanlike manner, and painted white on its outside; it should be made tight in the joints, so as to exclude the light and air. The lower apartment, where the bees store their food, rear their young, and perform their ordinary labor, should hold about as much as a box 13 or 14 inches square, or a bushel. If the hive is much larger, the bees will never swarm, and will not be likely to fill up the drawers in several years. The back side of the hive should slant forward of the lower apartment, so as to render the same smallest at the bottom, the better to secure the combs from falling when cracked by frost or nearly melted by heat.

The bee-owner should have his hives in readiness in the apiary, with the boxes bottom upwards to prevent entrance when hiving; when a swarm has come forth and alighted, saw off the limb, (unless the hiver is used,) shake it gently over the table so as to disengage them; place the hive over them, taking care to lay one or more sticks under the hive, before many rise in the air. If they will not enter, invert the hive and brush them in carefully with a quill; place them in the bee-house and keep the hive well ventilated. To prevent robberies, the moment it is discovered that robbers are within or about the hive, close the bottom board nearly, so as to prevent entrance but let in air; open at night to let the robbers go, and close early next morning.

The apiarist should beware of the moth, which enters the hive generally by night, and locates itself in a kind of glue or cement which the bees use to stop up cracks, lays its eggs, which soon hatch into a maggot, and if the hive is not well guarded by the bees, will destroy the whole colony.

All hives should be weighed and marked before used, and by their weight in the fall the apiarist can tell how much they lack to sustain them the coming winter, or how much to take away. If they need feeding, place some comb and strained honey on the bottom board.

North Boston, Erie Co., N. Y. B. F. BOWEN.

FARMING IN TEXAS—A HAPPY EDITOR.

Geo. W. Kendall, one of the proprietors of the New Orleans *Picayune*, owns large estates in Texas. Writing to a friend in Boston, he desdribes his mode of life, as follows:

"You may, perhaps, wish to learn the mode and manner of my life hareaways; let me enlighten you. Three days in the week I ordinarily pass at my rancho here, three or four miles from New Braunfels, with my family; two days I spend at the Estancia. a place of mine, thirty miles west, and where my flock of sheep are pastured; and the other two days I am on the road, backwards and forwards, my conveyance an old Jersey wagon, with two trusty horses. There is one gap of eight miles on the road without a house, and another of twelve; yet the way is not lonesome. I never pass over it without seeing an abundance of deer, turkeys, ducks, partridges and the like; I carry alongside of me a double barrel gun, a Sharpe's rifle and one of Colt's revolvers, and some kind of game is sure to grace my wagon, both going and coming. My sheep now number some 3000, and finer flocks you never set eyes upon. In May, I hope to be able to count upwards of 4000, as my lambs come in April. I have, besides, a fine gang of brood mares, besides some forty cows, and like the elder Mr. Norval, 'to feed my flock and increase my store' is now 'my constant care.' Did I not once tell you that I had much rather see my lambs skipping upon the hills and playing in the valley than to witness the pirouettes and entrechats of the best corps de ballet that ever existed? I have seen a good deal in my day, Jim—the world, the elephant, etc.—but never saw anything which afforded so much real enjoyment as my flock, when doing well. And since I have been here on the spot in person, now nearly two years, I have had extraordinary good luck; I have not lost two per cent. of my sheep per annum, and when I tell you that 20 per cent. is the average loss the world over, you may well imagine that my success is remarkable.

"I never sell a ewe or anything which produces. I have pasturage for 20,000 sheep, and any number of horses and cattle; and to see all this space covered is now what I am working for. I don't bother my mind a moment about Kansas,, or Brigham Young, or politics of any kind—don't care who is President—fear God and hate the Indians—try to keep my feet warm and head cool—and smoke my pipe in peace with all mankind.

"Here, notwithstanding we occasionally have a cold and blustering norther, our climate is delicious. I am now writing on this 1st January, A. D. 1858, sitting in my shirt sleeves, doors and windows wide open, no fire, and robins and other summer birds singing in the green live oaks of my yard. Think of that, all muffled up as you are, and weep. And then here among the mountains we have no fevers, no chills, no consumptions, no sickness of any kind. There's balm in Texas."

TO KEEP TIRES TIGHT ON WHEELS.

Messrs. Editors:—I desire to ask room for the following, which I believe to be an excellent suggestion, and that the mechanic who shall take the initiative in the matter, will be sure to find his reward in the greater call for his work. D.—*Gates.*

I wish to communicate to the public a method by which tires on wheel carriages may be kept tight. I ironed a wagon some years ago, for my own use, and before putting on the tires, I filled the felloos with linseed oil; and the tires have worn out and were never loose. I ironed a buggy for my own use, seven years ago, and the tires are now as tight as when put on. My method of filling the felloes with oil is as follows: I use a long cast iron oil heater, made for the purpose, the oil is brought to a boiling heat, the wheel is placed on a stick, so as to hang in the oil, each felloe one hour, for a common sized felloe.

The timber should be dry, as green timber will not take oil. Care should be taken that the oil be made no hotter than a boiling heat, in order that the timber be not burnt. Timber filled with oil is not susceptible of water, and the timber is much more durable. I was amused, some time ago, when I told a blacksmith how to keep tires tight on wheels, by his telling me, it was a profitable business to tighten tires, and the wagon maker will say, it is profitable to him to make and repair wheels—but, what will the farmer, who supports the wheelright and smith, say?—*Cor. Southern Planter.*

Genesee Farmer Prize Essays.

ADORNING AND BEAUTIFYING FARMERS' HOMES.*

"Should Farmers adorn and beautify their Homes and Farms before they become wealthy? and if so, how may it be done in the easiest manner?"

Every farmer who owns the land upon which he resides—every man who owns a house and garden, should strive to make it as beautiful as possible. It can not be expected that the man of small means can procure the expensive adornments of the rich: his house may be small and plain, but he can beautify and adorn it, nevertheless. I say he can make his home beautiful and attractive, even if he is poor, and I will state the reason why I think he should endeavor to make his home beautiful, and adorn it as much as possible.

When I think of the many reasons why farmers should adorn their homes, I almost wonder that every farmer should not see the necessity of having a pleasant, attractive home. The moral influence of an attractive and beautiful home is great, both upon old and young. It tends to make them love the pure and beautiful, wherever it may be found. Nothing will banish vicious thoughts and feelings from the mind, sooner than to be surrounded by what is attractive and lovely. I have never known but few instances where victims of crime had been favored with pleasant homes, either in childhood or manhood: every thing rough and unattractive, makes the man the same. But few persons ever leave a pleasant home, for the tavern or dram-shop. Notice when you will, the first signs of reform in bad men are usually the adorning of their homes.

Nothing shows the refinement of the farmer more than the adorning of his home; it shows his good taste, and that he is desirous of making all around pleasant and comfortable. Beautiful and attractive homes tend to increase all the good qualities of the occupants, and remove the bad. Beauty and loveliness in nature tend to all that is noble in thought and deed, and make mankind better, both as concerns their own happiness and that of others.

Having shown why farmers should adorn their homes, I will tell how to do it the easiest.

If your house is poor and plain, it makes no difference; if you can not afford to build a new one, adorn the surroundings of the old one. In odd spells build a neat yard,—it will cost almost nothing; set out some pretty trees in front and surround the house with them if possible. Fill the yard with flowers; they will cost nothing but the trouble of getting, unless rare varieties are procured, and your wife and children will see to the cultivation—never fear for that. Build a wood-house, if you have not one already. Don't deface your door-yard with wood-piles, old rails, sleds, cart-wheels, and other rubbish; remove the hog-pen from its conspicuous position near the roadside to the rear of the house, and build a neat frame structure instead of sticks and slabs—'twill pay for itself in a few years. Have good neat fences, they look and are much better. Remove all sticks, stones and stumps from the fields. Build good barns and sheds, if not already built; they will pay for themselves, and look better than the unsightly objects on many a farm. Don't allow loose boards on your buildings; they are very unsightly. Have good yards around your farm buildings. They add greatly to the beauty of the premises. And above all, have the best books of the day, where yourself and family can gain instruction in their leisure hours; and take at least one good agricultural paper. Strive to make your home, farm, and family, a pattern one,—and in no way can it be done so effectually and easily, as by adorning it externally as well as internally. E. B.

* Your committee have read with a great deal of interest, the seventeen essays on this subject of Farmers' Homes. The task of assigning to any one of them the precedence over all the others, (when not one of the number is without decided merit,) is by no means an easy one. Between nine of the seventeen, our choice was some time quite evenly balanced, and was finally decided by the brevity of the essay from "E. B."

No task would be more pleasant to us, than to select sentences from each of the essays, and combine them into one capital article. We are sure it would be richly worth not only the perusal but the repeated attention of your readers.

The writers of many of these essays show an aptitude with the pen, and a readiness of thought, which evinces talent that ought by no means to be allowed to remain idle or hidden in a napkin.

Very respectfully, C. P BISSELL, Chairman.

THE DUTY OF KINDNESS TO DOMESTIC ANIMALS.

While kindness to animals is an acknowledged duty, there are few who do not sometimes, in moments of anger, forget these obligations. If there is anything which will convince us of the folly of so doing, it must be a view of those cases (unhappily not very rare) in which cruelty is the rule, instead of the exception.

An acquaintance of mine, who keeps but one horse, has had within a dozen years, I should think, upwards of half a dozen different horses, each of which has in turn become so completely worn out or so vicious as to become almost worthless. They have been driven almost constantly, hitched to loads which they could not possibly draw, and then abused because they could not draw them. In this way, spirited horses were soon rendered ungovernable, and those which would yield to such treatment were soon utterly broken down.

Another acquaintance had a very valuable mare, which was accidentally injured. By neglect she became poor and weak, and finally was so much reduced that she could not rise upon her feet. In this condition, rather than to have her die in his hands, the owner traded her away, getting scarcely a consideration for her,—when, upon being properly cared for, she began immediately to recover.

Now, to say nothing of the cruelty of the thing, it is plain that both of these individuals suffered a pecuniary loss by their unkindness. The former, by good keeping, fair loading, and kind treatment generally, might have performed nearly, perhaps quite as much work with one good horse as he did with six—saving the purchase money of five; the other might, by a little careful nursing, have saved several hundred dollars upon one animal.

Those animals which are treated the most kindly are the most gentle and obedient, and also thrive the best; hence, no one can *afford* to use them unkindly. By kindness, mingled with firmness, the most ferocious animals are subdued, and it is vain to suppose that the same means would not be effectual in training domestic animals. Surely, no one should degrade himself by continuing a practice which is both unprofitable and inhuman. L. H.

STOCK FOR A HUNDRED ACRE FARM.*

"How much Stock and what kinds are desirable on One Hundred Acres, including Timber Lot, managed in the usual way of Grain-Growing and Stock-Raising combined?"

THE science of Agriculture is very similar to the science of Medicine. It is necessary for the physician to understand the temperament and constitution of the patient, as well as the nature of the disease, in order to prescribe beneficially; so, in order to tell accurately what kinds of stock and how much are desirable and profitable on a farm of one hundred acres, it would be very necessary first to know the nature and capacity of the soil. It depends on all these circumstances, as well as the locality and the number in the family, or, in other words, the amount of labor to be laid out on the farm. It is an undisputed fact, that one hundred acres of land in some sections and localities, will produce double the quantity of hay and grain that one hundred acres will in other sections. As a general rule, there ought to be kept on all farms, of whatever size, sufficient stock to consume all the fodder raised on the farm, in order to retain the manure; for if you starve your farm, very soon your farm will starve you.

The first and most necessary of all stock is a good team. One good substantial pair of work horses, with economical management, will do all the necessary work on a hundred acre farm. The next most necessary and profitable stock are the cows. Now the number of cows most profitable on a hundred acre farm, would depend on the number of females in the family; for to be under the necessity of hiring and boarding an extra female domestic, in order to add a few cows to a dairy, would be neither desirable nor profitable. Therefore, I think six good cows and fifty good breeding ewes the most profitable stock that can be kept on a hundred acre farm. If the forage of the farm will more than keep well the above named stock, add a sufficient number of young cattle.

The profit of the stock to be kept on any farm depends very much on the location and nature of the soil. If the location of the farm is such that the milk from the dairy can be sold readily by the quart, undoubtedly all the cows the farm could support would be the most profitable stock that could be kept. On the other hand, if the farm lay remote from market, where female help is scarce and difficult to be hired, it would be best to keep sheep and growing young cattle, and only so many cows as were necessary to make the butter and cheese for the use of the family.

Green River, May, 1858. J. M. VARNEY.

ONE hundred acres, properly divided, will contain twenty-five acres each, of meadow, plow land, pasture, and wood land. The twenty-five acres of meadow, if in decent condition, will cut forty tons of hay at least; and the twenty-five acres of pasture would keep at least twenty head of cattle, or should be made so that they will. The twenty-five acres of plow land will be sufficient, when other things are connected with grain-growing. The twenty-five acres of wood land some might think too much; but I think not, all things considered.

Now let us see what stock, and how much, we can keep on the farm divided as above. 1. Every farmer who owns one hundred acres of land should have a good pair of horses, to do the necessary road traveling, and assist in the labors of the farm. 2. A good pair of oxen, as there is much work on a farm that is best performed by an ox-team, and it is quite convenient, when oxen are high, to have a pair to turn off. 3. At least ten sheep should be kept, to supply the family with wool and mutton; and they will, besides, be quite an article of profit to the owner. 4. Keep at least eight cows, to supply the family of the farmer with milk, butter, cheese, &c., and to raise calves to take the places of the older cows and oxen that will be sold; the sour milk, whey, &c., will raise the necessaay number of hogs for family use, and possibly some to *sell;* and besides what butter, milk, &c., the family will use, and what milk is fed to the young calves, there will be considerable butter or cheese for sale. 5. Young stock, as calves, yearlings, &c., as can be kept besides the other stock, and not have to buy hay. Young stock, if well kept and cared for, are profitable; they should be both steers and heifers, to supply the place of what may be sold, and every farmer who owns as much as one hundred acres should calculate to have some cows and a yoke of oxen to sell, every year, with younger ones to fill their places, of his own raising. 6. As many hogs as can be kept on the milk and slops of the dairy, and can be fattened without buying materials: four or more could be easily kept and fattened.

In my opinion, stock-raising and grain-growing are the chief means for money-making with the farmer, and he should so manage as to have at all times something to sell: when cattle are high, some to sell, with more of his own to take their places, —not sell and buy again, for it reduces the profits; when grain or pork is high, some ready for market, —and farming will be found profitable. B.

*Only two Essays have been received on this important subject. The committee are unable to determine which is best, and award a premium to each of them. The subject requires still further discussion.

BUILDINGS AND FIXTURES FOR A FARM OF ONE HUNDRED ACRES.

"What Buildings and Fixtures are required for farming, profitably, one hundred acres, including timber lot, managed in the usual way of grain-growing and stock-raising combined?"

THERE is required a pleasant and commodious dwelling, with parlor, dining-room, sleeping-rooms, closets, kitchen, cheese-room, pantry, wood-house, cellar, cistern, and well,—all constructed in accordance with the best improved taste and judgment of the proprietor. Also, a barn 42 by 52 feet, elevated two feet from the ground on the upper side, having on one side of the barn floor stalls for horses, each 4½ by 14 feet; an apartment joining, for a cistern, at the further end of the stalls, 6 by 14 feet; and joining that, a granary, 10 by 14 feet; on the opposite side of the floor, a corn-crib, 14 by 20 feet; a mow for hay, 14 by 32 feet, and hay or Hungarian grass on the scaffolds; and a floor 14 feet in width. The horses should stand on a ground floor, on the upper side of the barn. The earth that is taken out for a cistern should be used for that purpose, and be covered with an abundance of sand to within a foot of the sills of the barn. The floor of the granary need be only one foot and a half from the ground, and may be let down below the sills of the

barn to that depth. There may be under-sills, resting on shoulders in the underpinning, to lay the floor of the granary on. The floor should be made of oak plank, two inches in thickness, and the granary lined up to the sills of the barn with similar plank, to keep rats from intruding. The corn-crib, on the opposite side of the barn floor, may be made in a similar manner. If the corn is not sufficiently dry to keep well in so deep a crib, dry rails should be laid along, occasionally, through the middle of it, for ventilators. But what would answer for cribbing corn in Illinois, might be ruinous in the State of New York.

A wagon and carriage house may be made on the upper side of the barn; and there should be a building for a hog-house, some 30 feet by 16, with a corn-crib and hen-house over the two rooms for hogs—there being free access from their feeding-room into a small adjoining yard.

Perhaps as good a shelter for calves as any other, is a rick of straw suitably built in a yard for them—being brined, from time to time, around, near, and at, the bottom of it. Sheep can find a comfortable shelter under the floor of the barn.

Metamora, Ill. B. C. W.

TOOLS AND IMPLEMENTS FOR A 100 ACRE FARM.

"What Tools and Implements are necessary to farm it profitably on one hundred acres, including Timber Lot, managed in the usual way of Grain-Growing and Stock-Raising combined?"

THERE would be wanted 1 two-horse scouring plow, 1 one-horse scouring plow, 1 one-horse three-shovel scouring plow, 1 harrow, 1 spade, 1 barn-shovel, 1 wheel-barrow, 1 dung-fork, 2 pitch-forks, 2 hoes, 1 wagon, 1 two-horse reaper and mower combined, 1 horse-rake, 1 corn-sheller, 1 of the little cast iron grist-mills, provided they are found to be durable and to do good business, 2 sets of harness, 1 saddle, and 1 carriage.

The best and most profitable way of planting corn that I have noticed, is to drop with the hand and cover with the hoe. When thus planted, it comes up enough better to more than pay for the extra trouble.

No person can raise grain cheaper, by cutting and threshing it with machinery; but the same help can grow much more with it than without it.

Metamora, Illinois. B. C. W.

BUTTER MAKING.

"Can we make more Butter by Churning all the Milk than the Cream only?"

MOST assuredly we can. Almost every one who has had experience in making butter in hot weather knows that before the cream all rises the milk will be loppered, and sometimes it is found moldy. How, in this case, are we to get all the butter that is in the milk, unless we churn milk, cream and all? One of my neighbors churns his milk and cream all together, and after the buttermilk has stood awhile he churns it over again, and finds enough butter in the buttermilk to supply his family with what they want to eat. If you could compel the cream to rise all up before the milk is loppered, you could then get nearly all the cream of the milk, so as to have the whole of the butter by churning the cream only. A. L. SMITH.

Nichols, Tioga Co., N. Y.

RAISING AND PICKING GEESE.

WHEN the good motherly goose wishes to set, give her eleven eggs, and shut her away from other geese and ganders. Supply her with food and water—give her grass as well as corn, if the former is sufficiently grown for gathering. In four weeks the young goslings will begin to appear, and will all hatch in a day or two's time. Don't hurry them from the nest, nor be over-anxious to have them eating; they will be ready for that when they become older. Feed them a little bread and milk at first—corn meal does not seem to agree with them as well. Let them go to grass and water in pleasant days. A shallow vessel, which they can get in and out of readily, supplied frequently with clean water, is as good as any, so far as raising geese is concerned, though it is less trouble if one has the pond for them. Be sure and shut them up at night, in a warm, dry place, and keep them there until the dew is off, in cold mornings. Shut them up on cold stormy days, also, feeding them with handfuls of fresh clover. If no accident befals them, them will live and grow, without trouble.

There is no machine for picking geese, that ever I heard of; the thumb and finger must do that work. The time to do it is when the feathers are *ripe*, which occurs about four times during the season. Feathers picked when green—in the pin-feather state—are not fit to put into a bed; they can not be cured so as to be as light and sweet as ripe feathers are. When picked, put the feathers in a sack made of thin cloth—an old sheet is good—and dry them perfectly in the sun. Afterward, they will keep good in any dry place. E. H. R.

FEEDING CORN-STALKS TO CATTLE.

"The best Time, Place, and Way of feeding out Corn-Stalks to Cattle."

ALMOST all farmers have a way of their own, and they nearly all differ in regard to the manner and time of feeding out stalks,—and as a general thing, perhaps, without much thought as to whether their manner of feeding is either economical or convenient.

First, as regards the time of feeding. If the stalks are keeping well, and are not where they must be removed to make room for something of more importance, never fodder them out early in the fall: they are not eaten half as well as when fed later, or after snow has fallen.

Next, as to the place: feed them in the yard, by all means, where, in the course of the winter, what is uneaten will be thoroughly incorporated with the manure, and in a decaying condition suitable for use the ensuing summer; whereas, if the stalks were fed scattered around the fields, what remained uneaten would be almost valueless, as I have found them, after feeding the stalks in the meadow, only partially decayed several years after,—when if fed in the barn-yard they make quite a quantity of good manure.

As to the manner of feeding, scatter them around the yard,—taking care not to feed when the yard is wet or muddy, and none will be left but the butts of the stalks,—and they will be scattered where they will have the best chance to become thoroughly mixed with the droppings of the cattle, and assist in absorbing the juices of the yard.

E. P. B.

MULES vs. HORSES.

"Will it pay best to raise Mules or Horses, either for Farm Purposes or the Market?"

I UNDERSTAND that to mean, which will put the most money in the farmer's pocket in a given time, mules or horses? And if the old adage be true—"A penny saved is as good as a penny earned,"—I think there is no doubt but mules pay best. For all the labor of a farm, a good sized mule is equal in all respects to a good sized horse. This no one will dispute who is accustomed to both. But there is this difference in favor of the mule: he will perform the same labor upon two-thirds the amount of food that the horse will consume. Here, then, is a saving of one-third, which will enable the farmer to keep three mules when he could only keep two horses. Their cash value is about the same.

Another item will be saved in the shoeing of mules. Owing to the hardness of the mule's feet, and their slow growth, shoes once on need not be removed until worn out; and their bodies being light, the shoes wear a long time. I think I am within bounds, when I say a mule can be kept shod the year round for one-third the cost of keeping a horse shod the same length of time.

Then their durability should be taken into account. But few horses survive twenty, and I think I may say with safety that the majority are used up by the time they arrive at fifteen years of age. Not so with the mule. Some in this country which are known to be from eighteen to twenty-five years of age are still good mules,—still at labor, and from all appearances will be for the next ten years; they are not failing in the least yet. Then mules are not near so liable to diseases and accidents as the horse. It is a rare thing to see a blind mule, and very seldom that they are sick. Although mules have been used to a considerable extent in this neighborhood for a number of years, I have heard of but one that has been in the least diseased, while on the other hand many horses have died by different diseases. Mules are often charged with being vicious, but this need not be so; if they are handled carefully and kindly while young, they will be equally as docile as the horse.

I am confident that were it not for the prejudice existing against the mule, he would pull himself into favor wherever land is to plow or wagons to pull. And he is not a whit behind the horse for the saddle or the carriage, though I acknowledge a person feels rather too low upon a mule. But they are far more sure-footed than the horse; they are much more true to pull, and they are quicker travelers before a load than the horse. Now, if all these savings are put together, I think it will make a good large penny saved by employing mules instead of horses.

But there is another feature of the text, which we will say a little about before we quit this subject. *Which will pay best to raise for market, mules or horses?* The great advantage mules have over horses, is, that they can be sold for their worth at any time. The small farmer can keep his mule colts until weaning time, and then sell them at a better price than he could get for horse colts, while those who are prepared for keeping them longer can do so at a profit, and at three years old they will bring as much as horses will at five. And as I before stated, it will not cost more than two-thirds as much to raise them. I am fully convinced it is more profitable to raise mules than horses, either to sell or keep. W. D. M.

Pin Oak, Warren Co., Mo.

ON THE CONSTRUCTION AND ARRANGEMENT OF BARN-YARDS.

A WELL constructed barn-yard is the most important part of the farm. It is a kind of mine, containing elements of more intrinsic value than the gold of "a thousand hills." The size of the yard should be made, not merely according to the size of the farm, but with reference also to the collection of any material which would increase without inconvenience the amount of manure. Its line, and location as an enclosure for the confinement and convenient feeding of stock, would naturally be adapted to the situation of the buildings and adjoining fields; but as a place for making and saving manure, the main object is the manner of its construction. The border on every side should be high, with an inward slope, forming a reservoir sufficient to contain all the water which might in any way get into it, and with the bottom so compact that it could not penetrate the ground.

A yard thus constructed would retain all the salts of the manure,—a large portion of which, according to the present practice of many farmers, is entirely lost. "The dark side of the picture" of a barn-yard, is that side where is frequeently seen a black or copper-colored liquid running into the ditches by the roadside, or overflowing some already over-rich portion of the land, and lost, for any useful purpose to the farm. The waste in this way, on many farms, is very great; and the annual loss of the farmers, by neglecting to provide suitable yards for the preservation of their manure, is beyond estimation. But light on this subject is breaking into the minds of at least a portion of the farming community, and a better practice will eventually prevail. J. A.

CUTTING AND STEAMING FOOD FOR STOCK.

"Will it pay to cut and steam Hay, Straw, Corn Fodder, Meal, and Roots, for Stock?"

I THINK not, as far as the *steaming* part is concerned. The necessary fixtures for steaming are quite expensive, and it requires considerable time to do the necessary labor of steaming. The straw or other fodder that is to be steamed must first be cut, of course, and then steamed. It requires more of an outlay of time and money than will ever be returned in the gain from the operation.

I am a great advocate of *cutting* hay, straw, and other fodder: it pays well for the trouble. If the fodder is in good order, none need be wasted if cut before being fed, and I have always found cattle to do better on cut fodder than on uncut. Meal should be slightly wet before feeding, I think, as I find it more easily fed than when dry. When good feeding boxes are provided, the best way is to mix the hay, straw, stalks, &c., and meal together, and moisten it a little with water, when it will all be eaten with avidity. It is an excellent plan to cut fodder for all kinds of stock, and pays well, both in the fodder saved and in the better condition of the animals; but steaming will not pay with the most of farmers,—at least, such is my opinion. B.

BEST SUBSTITUTE FOR HAY IN FEEDING STOCK.

Hay was formerly the principal if not the only food for cattle in winter, but it is not so much relied upon now, and that there are other varieties of food as profitable there can be no doubt. But in regard to the best substitute, the choice must be guided by the estimate of cost of raising and advantage of feeding, together with the proportionate increase of the animal to that when fed on hay.—Grain alone will not answer as a substitute: it is too condensed a food for stock, without some other less concentrated food in conjunction with it, to supply the waste matter necessary to the health of the animal. Roots would seem to be the best substitute. They are easily raised, yield in abundance, are readily eaten, and when fed in connection with a little grain, produce good results. An acre of grass, on an average, will cut two tons of hay. An acre of carrots, on good ground, will produce from four hundred to a thousand bushels of roots, and from one to three tons of tops; the tops are eaten readily, and are good feed for the fall and early winter. Three bushels per day of chopped roots, with a little corn meal, wheat middlings, or bran, will keep one cow in excellent order. It is about the same labor to feed the roots that it is the hay, with the advantage that the manure is in better condition. Of the roots, I consider the carrot as the best, but some of all kinds should be raised. In this section, turnips hardly ever do well on old ground; but on land just cleared, we sometimes have enormous crops—many times more than we could raise of grass on the same ground.

Cattle never tire of roots, and I have never seen any injurious effects from their free use. But if roots are used as a substitute for hay, some of all sorts should be raised,—turnips, carrots, parsnips, beets, ruta bagas, and perhaps potatoes. It would be best to change from one kind to the other when feeding, as there would be a probability of good effects to be derived from the change. Oil-cake is an excellent article for feed, but it would not answer to be used entirely without other feed; and there are several other articles that make good food, when used with hay or other coarse fodder.

Roots must be the great desideratum as a substitute for hay. Take the estimate of the quantity of each from the same amount of land, and the roots can be produced as cheap if not cheaper than hay, and with the same grain that is given with hay, will keep the animal in as good condition,—while the manure is as good, and in much better condition for using upon the land, being free from hay, straw, and seeds of all descriptions.

Pharsalia, Chenango Co., N. Y. E. P.

ON STACKING AND FEEDING OUT STRAW.

It is a matter of no small moment to the farmer, to ascertain how he may feed his stock the most economically, and yet receive the greatest benefit therefrom. There is no economy in half starving any stock through the winter, and causing them to take all the storms without any shelter; but on the contrary, it is a clear waste and loss to the owner. Then in stacking straw, we should have an eye to sheltering our cattle, as well as filling them. To obtain these completely, as well as some other advantages, the grain should be stacked on the poorest part of the farm, if possible. Previous to threshing, procure a sufficiency of stout poles, forks and rails. The object is to form a rack about fifteen feet wide at top, and any desirable length. Set the forks leaning somewhat to the centre, and six or eight feet apart; then place the poles in them, say six or seven feet from the ground. Now set up rails from the centre to each pole alternately: this leaves the width of a rail between each two, on either side of the rack, and gives the cattle room enough to pull straw without danger of getting their heads in. When the grain is threshed, there should be sufficient hands to stack the straw. It may be built to any reasonable height, care being taken not to lay it far over the ends of the rails. Top it off neatly, as any other rick, and your cattle may run to it all winter, finding food and plenty of shelter from the storms.

Where there is a great quantity of straw, it is best to make the rack in the form of an L, or two racks,—one running east and west, the other north and south, but joined at the corner; by this means, let the storm come from where it will, the cattle have shelter, dry, warm beds, and plenty to eat. In the spring, the rails and poles can be taken away and the waste straw left to rot, and then hauled off and scattered, or it may be scattered and plowed in immediately. W. D. M.

Pin Oak, Warren Co., Mo., 1858.

ON THE IMPORTANCE OF PROVIDING SHELTER FOR ALL KINDS OF STOCK.

Next to the necessity of an adequate supply of food for stock, comes the *importance* of shelter. It needs no argument to prove the truism that animals can not live without food; and it is just as certain that our domestic stock, artificially susceptible to the storms and changes of our northern climate, can not *thrive* without proper shelter. It seems now to be well settled, that a due degree of warmth is equivalent, in a measure, to food; and we all know that an entire *abandon* to ease and comfort, while in a state of rest—a perfect freedom from apprehension of any kind, which may arise from a lack of food, or from exposure, or any other cause—is necessary to the maximum of thrift or usefulness.

Who would expect the race-horse, plow-horse, "old stager," or even the patient ox, to perform his full amount of daily labor, if exposed to all the winds and storms of heaven,—stabled in an open yard and blanketed with a snow-bank, or dressed in mail of frozen rain and sleet? Or who would expect the matronly cow to fill the pail to overflowing with generous milk, or supply her eight or ten pounds of butter per week, while enjoying her days and nights in wallowing through mud, amid torrents of rain or driving snow, up and down the roads, or from field to field, in search of shelter,—finally taking refuge from the piercing wind and blasting storm, in lee of some dilapidated fence, or under the dripping eaves of some hospitable building?

Shelter for stock should be ample and commodious; to prevent interference as much as possible between the occupants, and besides saving food, through the medium of increased temperature in the animal system, should save a large amount by the superior advantages for feeding, and by the greatly increased facilities for making and saving

manure—that "philosopher's stone" of the farmer, which, if it does not turn everything into *gold*, at least turns his labor into the food which sustains his stock and himself.

Shelter from the inclement storms of winter is not all that is required in our climate. Notwithstanding the practice and advice of the Hon. A. B. DICKINSON, and *too* many others, to "cut down all those beautiful shade trees in your fields," the practice can but be looked upon by the mass of farmers as *barbarous*, and based upon a false deduction from supposed causes, so far as animals are concerned. No one can doubt the utility, nay, the *importance*, of shelter from the scorching rays of the sun, during our hot, unclouded summers, especially for milch cows. If you cannot avail yourself of those beautiful shelters, so admirably adapted to the purpose by nature — which, while affording a grateful protection, permit a free passage of pure, fresh air —supply the defect artificially, by the erection of sheds. H.

Fredonia, N. Y., May, 1853.

KEEPING CATTLE IN SHEDS THE WHOLE YEAR.

"Would it be an Advantage to Farmers, possessing old, improved Farms, to keep their Cattle and Horses stabled or yarded during the whole year?"

IT certainly would, so far as profit is concerned. On old, improved, rich lands, it would be policy in the farmer to stable or yard his cattle and horses during the whole year; but I should prefer yarding in the summer season, as more air and room for exercise would be allowed, — both of which would be conducive to the health of the animals. Good sheds, however, should be provided around the yard for shelter from heat and storm, a very necessary provision for the comfort of the stock. My reasons for preferring yarding to pasturing are these: it leaves the pasture land for plow land or meadow; it leaves the manure where it can be procured the most readily and applied the most easily, where and when the most needed, instead of being scattered around the pasture where but little benefit is derived from it.

But if stabled or yarded they must be fed. This some might think would more than overbalance the advantages to be derived; but it will not. One-third the ground will do for the same stock yarded, that would answer for them if allowed the run of the pasture. For feeding, I should prefer green corn fodder or clover. Perhaps a few early turnips would be good, and millet, oats, and Chinese sugar cane cut green, would be suitable; but corn or clover, I am inclined to think, would be the main reliance. One acre of land in good condition, sown to corn, and cut and fed from the time it begins to tassel until it begins to glaze, will keep six head of cattle during the time, and perhaps more,—say two months; while it would have taken six acres of pasture to keep them the same length of time.—Clover on rich ground may be cut three times in the course of the summer, and in favorable seasons may be cut quite early; an acre of good clover will keep from four to six head four months of the summer. I should feed clover and green corn almost wholly in summer, changing from one to the other as often as was desirable. Hay and grain would have to be fed in the spring before green feed grew, but it would be a small item in comparison of the advantage.

I said one-third the ground, if sown to some crop to be fed green, would keep the same stock that the whole would if pastured—and I am certain it would, from what I have seen of green feeding—which leaves the other two-thirds for other uses. Now it is hardly possible to suppose that two-thirds of the former pasture ground will not pay for sowing and feeding the other one-third,—saying nothing of the large quantity of excellent manure ready for application to the poorest parts of the farm, and having the cattle always handy and in place.

On other than old improved farms, where the pasture is of necessity as valuable for tillage as the other parts of the farm, the plan of yarding would not answer; for the pasture is generally the roughest, poorest part of the farm, and that which could not be applied as profitably to other purposes. On such lands, the cattle must be allowed to get their own living in summer. P. B.

WOULD IT BE PRUDENT FOR FARMERS TO ADOPT THE TEN HOUR SYSTEM?*

WERE the question put to the mechanic, or the day laborer, you would immediately get the answer, "Yes, ten hours are enough to labor out of twenty-four." Well, we agree to that, in part. Ten hours labor is enough for one day; but the farmer can not always work by this rule, — consequently, it would be better not to adopt it. Adopt the rule, and you must fix the hours, — say from seven to twelve, and from one to six: these, I believe, are the most common hours now adopted. By this regulation, you lay by the best part of the day, and work yourself and team through the heat of the day. Fix it on later and earlier hours, and you will again meet with objections as grave in hay and grain harvest, when you often need to labor the whole day and part of the night, or lose a part of your crop.

I knew a man who hired some hands from the city, to harvest. He commenced about their regular time to commence work; the field was some distance from the house; they took a long noon and an early supper, and when the whistle sounded, some were in the field, some were climbing the fence, and some were on the road from supper to work; but at the first sound all started for home, and the farmer was left alone to take care of his hay. The next morning they were all on the ground, ready for work, but they were informed by the farmer that he did not need such hands. Served them right.

When the farmer's busy season comes on, he must work early and late, and pay his hands accordingly; work all good weather, and lay by while it is too wet. In fact, he must let circumstances dictate the hours for labor, and pay his hands according to the time they are at work. I think no other rule can be adopted, that will suit the diversified circumstances of farmers so well as this.

Newcastle, Lawrence Co., Pa. WM. RENO.

*A great many essays have been received on this subject.—*Every one of the writers answer the question in the negative.* After considerable hesitation, the committee awarded the premium to the above article, which is evidently written by a practical, common-sense farmer.

REMOVING SMALL STONES.

"Is it injurious, or beneficial, to remove all the small Stones from the Land? and why?"

We answer, it is decidedly beneficial. The question, I think, fairly implies that all the large stones should be removed, and by "small stones" is meant such as can be thrown out of the way conveniently by the plow. In the first place, where there are a great many small stones left in the ground, and the ground is hard, the plow will not penetrate the soil, but only skim the top. Second: when the land is seeded to grass, a portion of the surface is covered with rock, and of course so much grass will not grow on a given area as if the surface were cleared of rock. Third: the cultivation of the crops can not be so conveniently, thoroughly, and expeditiously done, where all the rock is not removed. Fourth: it is considered that fencing, where the stone can be taken from the fields — taking durability into consideration — can be more cheaply made from stone than from any other material. Any person who has had experience in building fence of stone, knows the advantage of having small stones for leveling up and filling in the wall.

The only reasons I remember to have heard for letting the small stones remain on the land, are— first, that they keep it from washing; second, that by the action of the atmosphere, &c., the rocks are crumbled down, and add to the fertility of the soil. The best method I know of, to keep rolling land that has rock upon it from washing, is, to take all the rock off, large and small, plow it deeply,—when cultivated in corn plow it only one way—sideways of the hill,—then the water will seldom break over the rows, and a great deal more will be absorbed by the land than if plowed shallow; about the last of August or first of September sow it thickly with rye, which will soon come up and form a sod that will prevent it from washing through the succeeding winter and spring. In the fall sow timothy, and in the spring clover; pasture two years, — the clover and timothy will keep it from washing during the time of pasturing; at the end of two years plow deeply for corn, and cultivate as before. If prudently cultivated, sod land seldom washes much the first year. This process can be repeated any length of time. Wheat can be made to answer nearly the same purpose as rye, only it does not grow up so soon and form so good a sod.

In answer to the second objection — that the disintegration or the weathering down of the rocks, by the influence of the atmosphere, cold, &c., adds to the fertility of the soil — I will remark that this is a very slow process; that the deep plowing before described — which cannot be done if the small stones are not removed — the influence of the atmosphere, and the decaying of the straw, grass and roots, will add to the fertility of the soil much faster than the weathering down of the small stones left on the land.

I have just thought of another objection: that the stone left upon the land prevents, in some degree, evaporation, therefore moisture is retained by leaving them upon the land. The best antidote against drouth that I have tried, is to have the land deeply plowed and well pulverised; the moisture then comes up by capillary attraction, the atmosphere penetrates as deeply as the land is plowed, there becomes cool, and the watery vapor is condensed into a liquid in the same way that dew is formed. By this method of plowing the land and keeping it well pulverised in the spring, and keeping the surface well stirred through the summer, usually there is very little danger from drouth.

Now, as removing the stones from the surface greatly facilitates the well breaking of the land,— gives a greater surface when the land is in grass,— makes it much easier to cultivate when in hoed crops, — affords stones convenient for filling in and levelling up stone fence,—when properly managed, prevents washing, and promotes the fertility of the soil,—furnishes a deep vegetable mold, which prevents drouth and gives a good bed for the roots of plants, — all these things being true, may we not say that it is best to remove all the small stones from the land?

A. G. MULLINS.

BEAN STRAW AS FEED FOR SHEEP.

It is well known that sheep thrive better with a change of pastures; it is equally true that a variety of food promotes their health and thrift in winter. I have found my flock to do better on different kinds given each day, than on one kind, fed "right along," from week to week through the winter,— supplying them in each case with all they would consume economically.

As one kind of winter fodder for sheep, I would by all means have bean straw, and would like enough to give them one feeding a day through the season. In the early part of winter, oat straw might make another kind, or oat chaff, if from clean, bright-strawed oats; and I would not care to give hay more than once per day till March came in. I believe I could keep sheep in this way, if the fodder was of first quality, without grain, in first-rate order for raising lambs and wool-growing.

Bean straw, to be good, should be harvested as soon as the beans are ripe—when the pods turn yellow—and cured so as to save the beans in good order. If every bean is not threshed out it will be no loss; if they get into the sheep-rack they will be well saved, and any refuse beans may be given out at times through the winter. I do not know why beans are not as good for *fattening* sheep, as peas or corn; they are now about as cheap, pound for pound. Who has given them a trial?

B.

SHOULD COWS BE MILKED MORE THAN ONCE A DAY IN WINTER?

I am of opinion that when cows are housed and properly taken care of, they may as well be milked twice a day in winter as in summer; at least, I have always been in the habit of having mine milked twice a day, without seeing any bad effects arising from it. And I find that when we stop milking them twice a day, the cows very soon cease to make provision for the second milking, and give but very little more each time than they would were they to be milked twice. But on the other hand, where cows are but poorly wintered, and "running at the straw stack," I think it best to milk them only in the middle of the day—in the first place, because in general they give so little it is hardly worth while to go twice for it; and another thing, in severe frosts they are more likely to get frozen teats when they are milked both at morning and night.

M. M.

ON THE CULTIVATION OF HOPS.

The first thing to be done towards raising a good crop of Hops, is to secure a large kind. This being done, prepare the ground by thoroughly pulverising it, either by spading or plowing, and then procure some finely rotted barnyard manure, and intimately incorporate it with the soil; then set out the roots, one in a place, about the same distance apart that corn is planted. When the vines are well up, they should be thinned out to one in a hill, and the thriftiest one left, as it will produce larger and better, though perhaps not as many.

As soon as they are about a foot high they should be poled, and assisted to wind about the poles, if necessary. The cultivation is much the same as of corn, only care should be taken not to tear up or disturb the roots, as they run close to the surface.

They should be allowed to stand as long as is safe, before the early frosts, but should never remain out in one, as it injures the flavor. When ready to pick, the vines may be cut off close to the ground, and the poles taken up and put under cover for future use. The hops, as soon as picked, must be spread thinly to dry, in an airy place, and not exposed to the sun or rain.

The next season, it is well to apply a top-dressing of manure; and when they have stood three or four years, and the ground is well filled with roots, take them up in the fall after picking, divide and re-set them.

STEPHEN POWERS.

Waterford, Washington Co., Ohio.

DOES IT INJURE BUTTER TO COLOR IT?—AND IF SO, WHY?

Most assuredly it does, and the reasons are these: You cannot change the color of butter after churning, without changing its taste or flavor likewise. When you add carrots to butter, you give a carrot taste to the flavor of the butter, and it is the same with all other coloring material. Pure butter has but one flavor, if properly made, and when you add any thing to it, then it is not butter,—it is a compound, and the preserving qualities are injured. I ask, who would like to eat butter that had been purchased in the roll, at a country store, and had a taste of something like pumpkin, carrot, saffron, and the like?

To those who are troubled with white butter, I would recommend the propriety of coloring the cow, in this wise:—Give her carrots, yellow corn meal, well cooked and salted, together with cut cornstalks. Boiled potatoes and wheat bran may also be used with cut stalks; or the stalks may be fed whole, and the cooked food separate. If you will follow these directions, and keep away your boiling water, the butter will be sufficiently colored.

Nichols, Tioga Co., N. Y. A. L. SMITH.

CELLAR FOR A FARM-HOUSE.

There are few departments of the farm-house that are of more importance than the cellar, yet it is perhaps more generally neglected than any other part of the premises, being out of sight, it is left to take care of itself, and will seldom bear very close inspection. There should be a reform here, and I will state what I consider the proper mode of constructing a good and convenient cellar.

After settling in your mind the proper height of the cellar, (which should not be less than seven nor more than eight feet high,) dig one foot deeper than you intend the bottom when finished; then dig under at the bottom all round from four to six inches, and lay a course of flat stones projecting beyond the outside of the main wall at least four inches, to prevent rats from working under. Lay your foundation in water lime mortar, carrying it up in the same as far as you can be safe from frost, and the remainder in quick lime mortar. Lay the wall in two distinct courses of stone, and do not allow the inner and outer stones to touch each other, but fill the middle with mortar to make a solid wall. Make your windows with double glass sashes, and you need have little fears that frost will penetrate to injure anything.

If your cellar bottom is dry, porous, gravelly soil, you do not need a drain, but that is seldom the case. The sure way is to dig a drain from one side to carry off superfluous water, and if a wet, clayey bottom, lay drain tile around or through it, so as effectually to draw off all the water, and then cover the bottom between and over the tile with small stones to the depth of one foot, and cover the whole with water lime cement. In situations where there is no fall for draining, the sides may be plastered with cement, to keep out water as much as possible. Lay timbers down while the mortar is soft, for sills to be used for divisions, and make simple board partitions, as they are less expensive than brick, and answer equally well in most cases.

The cellar should be divided into at least four apartments, viz: a milk room, fitted with shelves for the milk pans; a store room for provisions, with cupboard, &c.; a larger apartment for the storage of fruit, cider barrels, &c.; and a dark room for potatoes and other vegetables, as they keep better when excluded from light. Have ample arrangements for lighting and ventilating all the apartments (except the dark one), at all times, and you have a place for everything necessary about a cellar, and with but little expense after once built. A few other conveniences might be added, if thought to be of consequence; but the above is generally sufficient for common purposes, and would be a great improvement over the majority in use. * * *

ON HARROWS AND HARROWING.

There are various kinds of harrows in use by different farmers in the country, but the square-hinged thirty tooth harrow is perhaps more generally used than all others, throughout western New York. The Geddes harrow has been introduced to a limited extent, but has been generally abandoned after a short trial. The triangular harrow, single and double, (one behind and within the other,) has also had its day here. The Scotch harrow is now coming into use, and is very well liked on smooth land; but it is difficult to turn, clogs badly on rough land, and is not, on the whole, so well adapted to all kinds of work as the first named above. There are some new patent harrows which seem to possess good qualities, viz: the square, diagonal hinged harrow, improved by Wm. Anderson, (see Pat. Off. report, page 142 plates, '54,) and Ramsey's flexible harrow, (Pat. Off. rep. '54, page 166 plates,) both of which appear to be better adapted to pulverise the soil and overcome obstructions, with ease of draft and turning, and we judge

also for covering seed, than most others in use.—Various revolving harrows have been lately patented, but owing to their complexity of structure, and liability to get out of repair, as well as their extra expense, cannot very generally come into use, although they may be in some respects superior. We think a good harrow is much needed, and farmers should agitate the question through the agricultural press, and draw out the opinions and experience of each other on the subject. A good harrow is next in importance to a good plow, and can not well be dispensed with, either for pulverising the soil or covering seeds.

There are many different opinions concerning the proper mode of harrowing,—some contending that the soil should only be cut fine, without much stirring; others consider the usual form of the drag-tooth injurious and working on a wrong principle, and that the form of the cultivator tooth is better adapted to the thorough pulverization of the soil—lifting instead of compacting—and leaving it in better condition for a crop. Both methods have their advantages, in their proper places. The common harrow must in many cases precede the cultivator; both instruments are useful, and can not well be dispensed with. We do not think the cultivator so well calculated to cover seed as the harrow, as it draws the earth and seed into ridges, and the rains often wash the grain out, and also covering some of it too deep; while the harrow, if drawn lengthwise of the furrows, (as it generally should be,) will cover the seed at a more equal depth, and it is less liable to be washed out. Some will perhaps say that grain should be drilled in; but drills cannot always be had, nor are they always advisable, and a large majority will continue to use the harrow for some time to come.

Lyons, N. Y. ***

ON PASTURING SHEEP IN ORCHARDS.

I know not what others may think, but I am convinced that, were I to have an orchard containing a thousand trees, my policy would be adverse to allowing sheep to run in it. It is true that they will keep down weeds, kill thistles for the time being, and gnaw the grass low in the soil; but is it not equally true, on the other hand, that they will also gnaw your apple, pear, peach, and other trees?

The sheep is an industrious, gnawing animal. For instance, last season I turned a flock into the orchard for two or three days only, but found out at an early hour that the animals had gnawed the bark off of the apple trees, and materially injured the peach trees. I immediately turned them out. It cannot be said that sheep cultivate the ground, as do hogs. The nature of the sheep forbids that animal from working over the soil with his nose, as does the hog. The only argument then, in my opinion, in favor of allowing sheep to take possession of your orchard, is, that they keep down the weeds when there is nothing else for them to subsist upon; that they gnaw down the grass very low in the root; that they give to an orchard a cleanly appearance; and that, on the whole, they furnish the soil manure for its enrichment. The fact that grass is short does not prove that sod does not exist on the soil. The roots of apple trees cannot do as well bound down by a tough sod, as they could were they to be rooted among by swine. Allow me, therefore, to turn my attention briefly to the advantages of turning hogs, in preference to sheep, into orchards.

1. For twenty-five years we have allowed our hogs to run in our orchard, with great success and entire advantage to the trees,—turning them out usually before the apples begin to fall. The hog is a worker with his nose. He picks up worms, and destroys all small apples that fall on the ground, containing the grub which afterwards seems to change into some destructive insect.

2. The hog enriches an orchard equal to any other animal, though he may not eat dock and thistles. Fruit that grows on orchards where hogs run during the summer is not apt to be knotty, wormy and worm-eaten, as is the case where you mow your fruit-yards. This we have learned from experience. If you want indifferent, worm-eaten apples, mow your orchards, and allow ants to build nests around the trunks of the trees. Straw, put around the bodies of fruit-trees, is an excellent thing to make large apples and keep down the grass.

3. I prefer hogs in an orchard to any other animal. They are ever active with their snouts, and seem to be almost equal to a sub-soil plow in working over the soil around the trunks of apple and other trees. We have always had excellent apples in our orchard, and it never fails to produce. The soil and sods are literally torn up by the hogs in almost all parts of the orchard. We never plow it, for by so doing the *spongioles* (absorbent vessels of fruit trees) are injured. Our orchard has become very fertile, and its yields of fine fruit are, as a consequence, very large. I therefore, from these very brief considerations, recommend hogs for orchards, in preference to sheep or other animals.

Baldwinsville, N. Y. T.

STEALING FRUIT—HOW TO PREVENT IT.

Doubtless some of your numerous readers would like to know how to prevent having their fruit stolen, as very often is the case in a thickly settled country, especially near a village or larger town, where too often numerous idle boys and sometimes not a few knavish customers take the opportunity of helping themselves to your fruit in your absence, or while you are passing the midnight hours in peaceful slumber. When I first commenced fruit-growing, I was occasionally annoyed by such intruders, not only in carrying away my fruit with them, but destroying much that they did not take, by shaking to the ground a quantity much bruised and handled, so as to be of little or no use to any one. Being aware of the fact that this mischief would only increase if I did not take some measures to remedy it, I adopted the following plan, which has proved in my case very satisfactory.

When I have conversation or dealings with persons whom I suspect of fruit-stealing, I treat them, as all other men, in the most respectful manner,—giving no chance for offence, as some do; and when I find fruit has been taken, I am not hasty to report that I think certain individuals are guilty of it, but keep still as to what has been taken, and look out for the future; in the meantime I may chance to find out the guilty, or be enabled to catch the thief in his next attempt. I act not rashly in announcing to the inquiring community how I will prevent my fruit from being stolen, but calmly assert, as in all

my other doings, that my determinations will be carried out, and in case one should be so unfortunate as to be found guilty, that he will be treated according to the penalty of the law. I contrive to have it generally understood by the community, that I am prepared with both pistols and a good musket well charged, and make it a duty of my own to walk quietly, at irregular hours of night, into the orchard or fruit-garden, with the intention of freely using said arms if an opportunity presents itself; and in two instances I had the pleasure of doing so,—since which time I have had no more fruit stolen, or been annoyed by any such intruders.

I have four thousand peach trees in bearing condition, besides apples, pears, and other fruit—all of which are exposed to being stolen, but my firmness in carrying out my designs has been a preventive against having my fruit stolen or disturbed by any such persons as have a disposition to take that which is not their own. At the ripening of my first crop of fruit, being somewhat annoyed, I determined to plant a complete Osage Orange fence around my fruit grounds, as a protection as well as a fence; but I am now happy that an occasional walk around the premises, at different hours of the night, using without hesitation good fire-arms, is a safer preventive against thieves. GIRARD.

TRANSPLANTING TREES.

This business is entitled to much more care than is given it by operators in general. With many, the operation is performed in so hasty a manner, and with so little regard to the habits of the tree, that success would be almost a miracle. Then, again, the many are anxious to set a tree as nearly grown as circumstances will in any way admit—a practice both absurd and dangerous.

A very few simple rules are all that are necessary to insure success. And first, preparation and adaptation of the soil are of primary importance. Trees, both forest and fruit, are usually taken from a soil to which they are adapted—the former by nature, the latter by cultivation. To insure success, they should always be put in a soil as favorable as the one from which they are taken; if better, greater success will follow. Frequent errors have shown themselves in this matter. For instance, we have seen the Maple taken from its native loam and transplanted to die in a soil where the Elm would grow fat. The latter loves moisture that would drown out the former. Similar remarks will apply to all trees. They have their favorite soil as well as climate, and will attain their greatest perfection in that soil. If a change is to be tolerated any way, it should be in removing trees from a wet to a moist or dry soil, but never the reverse.

A tree, with proper care, may be transplanted at any time. We have done it in each month of the year, with success. The great secret of midsummer transplanting, when the verdure is full, consists in taking all the roots, with the earth upon them, that can possibly be obtained; and if the tree is deciduous, divest it of its foliage, and set it in a shady position. We have seen new leaves start in a short time under these circumstances, and a new growth formed. But, though it can be done, the plan is not to be recommended for general practice. Its utility consists in the possibility it affords the power of trees to take up small specimens when traveling, and transfer them to his own grounds. Beyond this, the practice would be an unnecessary loss of labor, with unnecessary risk of the loss of the tree.

But to the best time for transplanting trees. Our inference is, that the land has been duly prepared to receive them. If its natural character is wet, it has been made dry enough for general cultivation. If it is stiff and heavy, it has been tilled and cared for until grain or grass will grow upon it without let or hindrance. If this is not so, the best time to set trees has not come upon that farm, and no season can bring it, until the owner has improved times and seasons to effect these objects. This done, spring and autumn are both adapted to the purpose,—the former from early plowing time until the bursting of the bud; the latter from the time the new wood becomes mature and the lower leaves begin to fall, to the setting in of severe frosts.

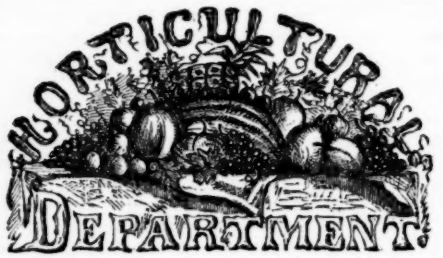
But in New England and northern New York, where springs are short, and the hurry of seed time impels to every exertion, and where the autumns are long and for the most part marked for bland and pleasant skies, we give to autumn a decided preference; and we do it for the reason that when the seed-sowing and in-gathering of the year is ended, or has so far become controlable as to admit of leisure that spring never affords, the work can be more leisurely and of course more thoroughly accomplished. The earth, too, is in a better condition for working than is ordinarily the case in spring. And what is more, a tree removed to a new locality in autumn is in a better condition to commence a new growth than if removed in spring. The earth becomes fixed around the roots, so that the winds that fall upon it in its full-leaved splendor cannot disturb it, and excessive rains give less drenching, and burning drouths have much less chance to penetrate and scorch the rootlets. It supercedes the necessity of mulching, unless it be to keep the grass down. In short, the practice is full of advantages, with no serious objections, and if the operation is well and carefully performed, a tree so transplanted will commence its growth in its new home, and scarcely give evidence that a removal had been its fortune.

Richmond, Mass. W. BACON.

ON THE BEST METHOD OF USING LIQUID MANURE FOR GARDENS.

No expensive fixtures will answer for the most of farmers, for applying liquid manure to gardens, but all will allow that it is beneficial. I have tried it several years, with great benefit. My plan is this:—I place a barrel in a convenient position, supplied with a good cover; into this I place the droppings of the hen-house, slops of the kitchen, and other refuse around the house having a manurial property, and let it stand in the barrel until full; then, with an old pail and a long-handled dipper, I pour it around the plants. It takes some little time, and is none of the nicest of jobs, but I am well repaid in the quick growth of the garden produce and in their fine size when harvested.

This is the manner in which I apply liquid manure to the garden. If there is a better way, on a small scale, I should be glad to know it; but I shall have the manure on the garden, if I use the old way, for it pays at that. L. B.



THE GENESEE VALLEY HORTICULTURAL SOCIETY.

The Summer Exhibition of the Genesee Valley Horticultural Society was held in this city, June 24. Although somewhat too early in the season for Strawberries and Cherries, still the show of those fruits was very large and excellent, while the display of flowers was superior to that of any previous exhibition. The attendance was good, and we are happy to see that these magnificent expositions are attracting more attention from our citizens, as well as from persons residing in adjoining counties. We noticed gentlemen present from the counties of Otsego, Cayuga, Wayne, Wyoming, Orleans and Genesee. We can not but rejoice that this old Society is renewing its youth, under its present able management, and is making such vigorous and well directed efforts to advance that taste for horticultural improvement which ought to characterize the far-famed Valley of the Genesee.

Let us take a look at the exhibition. This Hall in which it is held will seat twelve hundred persons, yet it is none too large for the proper display of the flowers and fruits entered for exhibition—in fact, hardly large enough. Here, as we enter, are several rows of tables, running the entire length of the room, filled with flowers from the celebrated Mount Hope Nurseries of Ellwanger & Barry. What a gorgeous display of roses! *Three hundred and eighty-six varieties of the Queen of Flowers* from this one establishment! This collection received, and is worthy of, the premium. It contains 48 new varieties, never before exhibited. Here, too, is a magnificent collection of 360 varieties of roses from A. Frost & Co., including 47 new varities imported last winter from France, and never before exhibited. To one of these is awarded the prize for the best new rose. Here, too, is a choice collection of roses, containing 183 varieties, exhibited by A. Loomis, of Batavia. They are "specially commended" by the committee, and deserve to be. What a fine display of pæonies! And here is a farmer, (Col. Brooks, of Wyoming,) noting down a few of the best varieties, in order that he may be able, in purchasing, to make a judicious selection. Who says these exhibitions are of no benefit to the nurserymen?

We cannot stop to examine this splendid collection of greenhouse plants, exhibited by John Hamton, gardener to S. Mathews, Esq.; but who can look without a feeling of pleasure on these large pyramidal fuchsias, drooping under their graceful load of floral ear-rings, gorgeous and beautiful,—or on these fine geraniums, with their profuse display of dazzling flowers!

Such an exhibition of flowering shrubs has never been made before in Rochester, if in any other city in the United States. Ellwanger & Barry alone exhibited 102 different kinds.

Of strawberries, there is a magnificent show, though not quite equal to that of last year. Here are the two prize dishes—one in the Nurseryman's and the other in the Amateurs' class; the former grown by H. E. Hooker & Co., the latter by H. N. Langworthy. The variety receiving this high honor is, in both cases, the *Hooker*. Here, by the side of the *Hooker*, is a dish of *Wilson's Albany*. These two varieties are destined to be the most popular market kinds we have. Both are staminates, and, unlike the *Hovey*, need no other kinds to fertilize them. They are both of a rich dark color, very large and handsome, and great bearers. This dish of *McAvoy's Superior*, shown by Hooker, Farley, & Co., is exceedingly handsome. If this variety was always as well formed as these specimens, it would have few superiors. Unfortunately, in this section at least, the berries are apt to be very imperfect. Among the great number of varieties here exhibited, *Sir Charles Napier*, *Triomphe de Gand*, and *Trollope's Victoria*, attract attention from their large size.

"What have we here?"

"A dish of wax peaches; well done, and no mistake."

"There *is* a slight '*mistake.*' They are not wax at all, but genuine *George IV.* peaches, raised in the greenhouse of Selah Mathews, Esq., President of the society. Just see how deliciously fragrant they are; a smell of such peaches, at this season of the year, as Secretary Seelye says, is 'worth the price of the entrance ticket.'"

Here, by the side of these ripe peaches and strawberries, are some preserved peaches and strawberries, as well as pears, quinces and tomatoes, exhibited by Hon. T. G. Yeomans, of Walworth, N. Y., whose "fruit bottle," with the rim for preventing the cork from being pressed into the bottle when the air is exhausted, is a decided improvement.

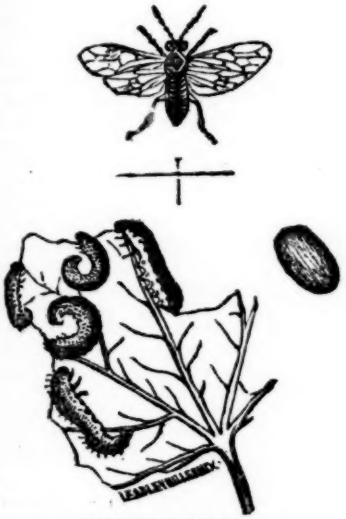
The show of cherries is not as large as usual. It is a little too early for them, but those that are shown are pretty good specimens. The trees in this section never before presented such a sorry appearance as at this time. Many trees are completely

denuded of leaves. Owing to the cool wet season last year, the wood did not fully mature, and the severe weather in December, and the prolonged rains this spring, have so weakened the trees that they are attacked by a disease somewhat similar to the curl of the leaves in peach trees. The "best dish of cherries" is shown by W. KING,—variety, *Belle de Choisy;* the "best collection," by ELLWANGER & BARRY. Among the best varieties of these may be mentioned the *Gov. Wood*, *Bauman's May*, *May Duke*, *Rockport Bigarreau*, *Downton*, *Early Purple Guigne*, *Early Richmond*, *New Weeping*, and *Belle d'Orleans.*

The show of vegetables is good, but we have not time to examine them.

THE GOOSEBERRY AND CURRANT CATERPILLAR.

IN the last volume of the *Genesee Farmer*, several of our correspondents, in different sections of the country, alluded to the appearance of a caterpillar which destroyed the leaves of their currant bushes. At that time it had troubled us but little, if at all, in this neighborhood; but the present season, our currant bushes, in many places, are literally denuded of foliage by this destructive insect, which proves to be the gooseberry and currant saw-fly (*Nematus trimaculatus*).



GOOSEBERRY SAW-FLY.
Grub, cocoon, and perfect insect.

The flies emerge from their winter quarters about the middle of April, and the female soon after deposits her eggs on the under side of the leaves. The larva is hatched in about a week, and commences feeding on the leaf, increasing in size, and frequently changing its skin, till it is about three-quarters of an inch in length. It is now of a dull pale-green color, the first thoracic segment being deep yellow, the penultimate being also of the same color; the feet, tail, and head, are black, and each segment is dotted black also, some having as many as twenty-four spots arranged in lines down the back, while those on the sides are more irregular, with one large one at the base of each foot. They have six pectoral, sharp, horny feet; the fourth segment appears destitute of feet, but the six following are each furnished with a pair of legs, which assist them in walking; they have also a pair of feet at the extremity of the last segment.

In the fly state it assumes an ochreous color; the body is orange, sometimes bright; the wings are iridescent, and, when expanded, are about two-thirds of an inch in length; the antennæ are almost as long as the body, bristly, brownish above, and nine-jointed; the crown of the head and eyes are black, as are also three large confluent spots in the center of the trunk, and also a large patch on the breast or sternum.

The broods of caterpillars appear in succession occasionally from March till October, but in greatest numbers in June. Sometimes they severely attack the gooseberry in July and August, and after denuding the bushes of their foliage, they descend into the earth, spinning themselves a yellowish cocoon of an elliptical form, and remain in their pupa state till the following spring. Those of the early summer brood descend in like manner, but in the course of three weeks, or less, undergo their transformation, and again appear as perfect flies.

Syringing the bushes, on the first appearance of the caterpillars, until the foliage is well wetted, and then dusting them all over with powdered caustic lime, is effective. The operation should be performed at least two or three times to secure their destruction, and the earlier it is done the better. Watering with lime water has much the same effect, and covering the ground under the bushes with fresh tanner's bark is also advantageous. The most radical cure, however, is to remove the soil under the bushes to the depth of three inches, and to dig pits two feet deep and bury the soil in them, substituting that taken from the pits for that which has been removed. Water heated to 140 deg., and applied by the syringe or garden engine, has been found destructive to the caterpillars, while the foliage has sustained no injury. The barbarous practice of striking the stem of the bush suddenly with a mallet, so as to cause the caterpillars to fall to the ground, where they may be bruised to death with the back of a spade or trodden under foot, is attended with much injury to the stem and bark of the tree. A nurseryman in this city, whose currant bushes are infested with these caterpillars, has them cut in two with a pair of scissors.

HORTICULTURAL NOTES FROM IOWA.

EDITORS GENESEE FARMER:—For the benefit of your numerous western readers, I am willing to spend a short time in jotting practical suggestions on the science of tree planting, training, &c.

Nurserymen are usually too chary of their ground. The trees are crowded too much in the row, seldom exceeding six or seven inches apart—causing the stocks to grow tall, slender, and weakly, often as large three or four feet from the crown as they are at it, with sometimes two or three straggling limbs, very frequently all growing from the same side. Such trees are not worth the labor of planting, much less the time lost in waiting year after year, in the hope of gathering fruit from the ill-shapen things, until finally the spring storms of wind and rain shall snap off or uproot the swaying flagstaffs, misnamed fruit trees, and sad experience shall force the truth upon you, that only stocky, low-headed, well-balanced trees will thrive and bear to any perfection in our western prairies. JNO. W. FRAZIER, of Henry county, one of the most successful fruit-raisers in the west, and who has some twenty-four hundred apple-trees bearing, informed me that his trees which were headed as low as twelve or fourteen inches, although set but two years—being then but two years old from the graft, (root-graft)—bore double and many of them treble the quantity of fruit that the long-bodied ones did, although many of the latter were three or four years older, and of the same varieties. A tree of the variety known in the west as *Mother* bore a full half-bushel of excellent specimens; two years old when set, and out four years. *Gravenstein* and *Ortley* nearly as well.

One of the principal causes of the failure of trees to grow, is the manner they are usually planted.—Taken from the crowded nursery row, the roots, being interlocked, are rubbed badly; these are jammed into holes often not over twelve or fourteen inches across, leaving all the mutilated roots dangling; the dirt is shovelled in and pressed down with the foot, to the maiming of the few remaining fibres that may have been so fortunate as to be left. Too much haste in setting trees almost invariably results in failure. A case in point:—

Neighbor ——— this spring purchased one hundred apple-trees. They were received in the evening; the next day by noon the boys had dug all the holes and the trees were set. Two days after, we had a heavy rain with wind, and when I passed, fully one-half of the trees were lying at an angle of 45 deg. These were straitened by raising them up with the hand, and by good luck with the heels on the lee side, and the work was done.

This is not an individual case. Scores of young orchards are treated in the same way every year, to my personal knowledge. The Fruit Books all give such plain directions for planting trees, that it is almost superfluous to say anything in regard to it. However, as Fruit Books are not as plenty among our farmers as *Genesee Farmers* are, I will venture a remark on the subject.

After having selected your trees, of varieties known to be hardy here—and they are but few—such roots as are bruised must be trimmed at the break, by a smooth cut from the under side. The holes should be dug deep, and filled up to the point on which the tree will rest with the surface soil, and they should be in width fully twice the full expanse of the roots. One person should place the tree in its proper position, holding it plumb, while another, with his hands, should scatter the finely pulverized earth around and over the roots,—being careful that there are no vacancies left under any of them, and the fibres placed in a horizontal position. After all the fibres are covered carefully, the balance of the soil may be shoveled in. Keep your feet off. If your trees are such as I have recommended, they will need no stakes. Plant two and three year old trees. If the summer is dry, mulch with saw-dust; it will keep the ground sufficiently moist all summer. I seldom water trees.

The ground set with young trees is usually cropped, the same as if no trees were there. Corn or sowed crops should never be raised in an orchard. Beans, potatoes, vines—in fact, any low hoed crop—will not interfere. Trees are almost invariably treated as a secondary object. It is almost impossible to find an orchard where the trees are not more or less scarred by the whiffletrees, to avoid tearing up a hill of corn or potatoes. *Make the trees* THE CROP *on the ground set apart for them,—use good judgment in selecting them,—set carefully,—cultivate them understandingly,—read the Genesee Farmer thoroughly*, and there is no danger of failure.

W. C. JONES.

Viola, Iowa, May, 1858.

PEARS FOR MARKET.

OUR respected friend L. F. ALLEN, of Buffalo, has written an article in the last number of the *Horticulturist*, to show that pears for orcharding, and especially *dwarf* pears, have proved a failure. On looking over his five pages on this subject, the following are the prominent points of his evidence and argument. He planted largely and well of both standards and dwarfs, but chiefly the latter. They grew well for two or three years, and then many of them began to die, and these losses continued rapidly to take place, the dead ones being replaced, until in five years the renewals were about equal to the original number. Afterwards, during a winter when mice were very abundant, these depredators destroyed nearly all that were left. Thus ended the experiment. Apple and quince trees immediately adjoining, succeeded well with much less care, and bore fruit in abundance. Twenty or thirty of his friends and neighbors commenced pear cultivation about the same time—with diverse soils, exposures, and cultivation, and all these admit their failure except one, who is "constitutionally obstinate" in never confessing to an error. This want of success appears to have been the chief reason for condemning the pear. * * * * * * *

On looking a little further at the article of our friend ALLEN, we think we can perceive a cause of his failure, independently of what may be supposed, that the soil was unsuitable, or too wet, or that fire-blight, which no skill can wholly avert, may have prevailed unusually just at that time. He states that for two or three years after setting, root crops were cultivated among his trees, with plenty of good stable manure, and that during this time many of them grew well. But, three years after planting, at the very period when failure commenced, the land *was laid into grass*, but dug

"every year" thoroughly for *four or five feet* in diameter around each tree, and manure was well forked in.

Now, whatever others might look for, we should expect failure with dwarf trees thus cultivated. Root crops do well for all other trees, yet not so well as simple cultivation without any crop, as we have long since and repeatedly stated. But a crop of roots growing at the foot of a dwarf pear, operates precisely as a crop of weeds,—for trees recognize no difference between a potato or turnip, and a thistle or pig-weed. The hoeing given to the roots is an important help to the tree, but this hoeing is less frequent and more expensive than may be performed on a clean bare surface. The dwarfs, however, mostly grew well, till the land was laid to grass. Then commenced rapid failure, notwithstanding the spaded circles. Now, we respectfully submit that a spading once a year is too infrequent; but if it had been done once a week it would still have been insufficient to promote proper growth. For a circle four or five feet in diameter is a radius of two to two and a half feet from the grass to the tree. Now, it has been ascertained that the roots of grass often extend much beyond this distance; and there is no doubt that this spaded surface was soon underlaid with a dense net-work of grass roots, abstracting nourishment and moisture from the tree. Every observant person must have seen the darker green and ranker growth of the grass at the onter rim of such spaded and manured circles, owing to the higher feed thus given to it, and by which its roots are encouraged to thrust themselves over the whole surface thus prepared for them, and robbing the tree. But this is not all. The roots of trees extend much further than most cultivators imagine. We have on former occasions fully demonstrated that peach roots run beyond a circle whose diameter is double the height, and that a tree ten feet high should have, not a dug circle three feet in diameter or less, as is usually given it, but one more than *twenty* feet in diameter, or a surface forty times as great as the three feet space. Apple and pear roots extend about as far—the quince roots of dwarf pears only about half as far, and a dwarf pear six feet high does not therefore require a cultivated circle more than six feet in diameter, with an additional ring two feet wide to compensate for the inner extension of grass roots—making the whole space *ten* feet in diameter. The four feet dug circles were therefore only a sixth part of the mellow surface they should have been, even if they had been repeatedly stirred through the season.

We had once hoped that the absolute necessity of high cultivation for the dwarf pear, was destined to work a revolution in fruit culture, by teaching planters to give all their trees better management. This hope has not been realized; for instead of effecting an improvement in cultivation, it has only induced negligent cultivators to pronounce dwarf pears humbugs.

It is generally recommended to confine the dwarf to *gardens*, where the soil has been made rich, and where in spading and hoeing vegetables, they will get a share of the benefit. As orchards are *usually* cultivated, it would be perfect folly to attempt the raising of dwarfs by orchard management. But as they should be treated, and as they may easily be, *this mode is superior to every other*, garden culture not excepted. For, as we have just shown, vegetables growing near them interfere in the same way that weeds do, but less in degree on account of the hoeing they get. Besides this, the surface in gardens is mellowed by hand less frequently and at more cost, than by horses, on a large scale. An acquaintance has several acres occupied with dwarfs, among which he allows no crop whatever to grow. The trees are eight feet apart each way, (twelve would be better,) and he keeps the whole surface as mellow as an ash heap, with less labor than is required for a field of corn, by means of a two-horse cultivator. He sold his fruit crop last year, during the severest season of the money-pressure, for about *twelve hundred dollars*, cash in hand, and a large portion of his pears (*Angoulemes*) sold at *six cents each by the barrel.—Country Gentleman.*

NOTES FROM OREGON.

Messrs. Editors:—I venture once more to send you a few lines upon Oregon.* We have had an unusually dry season; plowing of sod and fallow has been suspended nearly four months, and consequently the wheat sown will fall short nearly one half. The crops of wheat and oats were rather light, but otherwise good. Vegetables are very scarce, and the potato crop unusually small. Prices run high: wheat $1.25 to $1.50; oats 75 cents to $1; potatoes $1.25. The apple crop has been only tolerable this season; under good cultivation it has been good, but under neglected cultivation it has paralleled your ever-memorable Slapdash's success.

The mildew has borne a conspicuous part this season, and many a limb has been amputated on account of it. This disease is misnamed here, and the consequence is, a great many farmers labor under a mistake in regard to it. It is caused by a small bug, about the size of a common pin-head, a little spotted. This fellow eats off the under coat of the leaf, which causes it to curl up and renders it useless to the tree. Sometimes it preys upon the tender shoots, but generally attacks the leaf only. The flour-like or mildew appearance is the excrements of this bug. Touch the shoot on a cool, still morning, and the bug will fall at your feet motionless; touch it at noon, when warm, and it will fly like a gnat. I have caught multitudes in a short time, on a cool morning, by holding a tin pan, with a little water in it, under the shoots, and giving them a slight jar.

Apples ripened off unusually early, as the season was uncommonly long, warm and dry: they sold for about $5 per bushel. Plums have done well, and are perfectly free from malady. Our pears are not to be excelled in any of the four quarters of the earth, for size, flavor and productiveness. Grapes have come up to the work this season, even beyond our most sanguine expectations.

Horticulture is still onward here. Thousands of fruit trees are coming out here this fall and winter, and from present appearances we anticipate a fame for Oregon, ere long, in the line of horticulture, which, for her age and population, will be without a parallel in the annals of the world.

Eola, Polk Co., O. T., Dec., 1857. WM. RUBLE.

* We shall at all times be glad to hear from our esteemed correspondent. Occasional "Notes from Oregon" will be read with interest by ourselves and our readers. [eds.

State Fairs for 1858.

California,	Marysville,	August 23—28.
Alabama,	Montgomery,	October 18—22.
Connecticut,	Hartford,	October 12—15.
New Jersey,	Trenton,	September 14—17.
Ohio,	Sandusky,	September 14—17.
Vermont,	Burlington,	September 14—17.
Rhode Island,	Providence,	September 14—18.
Illinois,	Centralia,	September 14—18.
Kentucky,	Louisville,	Sept. 27—Oct. 1.
Canada West,	Toronto,	Sept. 27—Oct. 1.
Iowa,	Oscaloosa,	Sept. 28—Oct. 1.
Wisconsin,	Madison,	October 4—7.
Indiana,	Indianapolis,	October 4—9.
New York,	Syracuse,	October 5—8.
New Hampshire,	Dover,	October 6—8.
Virginia,	Petersburgh,	October.
Tennessee,		October.
U. S. Ag. Society,	Richmond, Va.,	October 25—30.

To our Agents and Friends Everywhere.—As there are thousands of farmers who have discontinued the high priced papers on account of hard times, and who are not now taking any agricultural journal, we have concluded to take half-year subscriptions to the *Genesee Farmer*, and we trust our friends will make an effort to send us in a few thousand additional subscribers. We will send the *Farmer* from July to December, inclusive, to single subscribers, for 25 cents; five copies for $1,00, with a *Rural Annual* to the getter up of the club; and eight copies for $1.50, with a *Rural Annual* to the person getting up the club. All subscriptions must end with the year. We can supply the back numbers if desired.

Oscar T. Wheeler, Esq., of Columbus, Miss., sends us *twenty-three* new subscribers for the present half year's volume of the *Farmer*, and justly remarks, "If all your *single* subscribers can send you twenty-three names, you will have a good list." We have over 1,500 single subscribers. If each of them would do as Mr. K. has done, they would add 34,500 to our already large circulation. This we do not expect. We think, however, that there are few of our friends who, by speaking to their neighbors, could not send us a club of five or eight subscribers for the present half volume. Many of them have already done so, and we feel under great obligations to them. We hope others will do likewise. We shall print several thousand extra copies of the July number, in order to be fully prepared for all orders. Now is the time to attend to this good work. There are tens of thousands of farmers who, on account of hard times, are taking no agricultural journal: to such the *Genesee Farmer* commends itself on account of its low price, as well as by its great practical value. Surely, the Prize Essays in the present number alone are worth much more than the small sum we ask for the half year's volume. The *Farmer* need interfere with no other paper. It occupies a field of its own; and, thanks to our unrivalled corps of correspondents, it is giving universal satisfaction. Thus, F. M. Fenee, Esq., of Flat Rock, Ind., in sending five additional subscribers to the present half volume, says: "I am now taking, beside the *Genesee Farmer*, a two-dollar agricultural paper; but were the prices reversed, I should still take the *Genesee Farmer* in preference." From such complimentary letters, we are satisfied that our friends have only to speak to their neighbors to induce them to subscribe. Will each one of our friends see what they can do for us? Will *you*, reader?

— Since writing the above, several other good clubs have been sent in, among them a club of *twenty-eight* new subscribers from B. S. Gould, of Port Allegany, Pa. This substantial method of expressing satisfaction with the *Genesee Farmer* is pleasing to us and complimentary to our numerous and experienced correspondents, who are doing so much to make the *Farmer* interesting and instructive. Our friends must not cease their disinterested labors till we have *one hundred thousand* subscribers. They can get this number with ease, if they will only continue their efforts. *We believe they will do so.*

Underdraining.—As an evidence of the interest beginning to be felt in the subject of underdraining, we may mention the fact that our correspondent, John Johnston, of Geneva, N. Y., who on his own farm has clearly proved that money spent in underdraining is a profitable investment, and who through the press has done so much to direct the attention of his brother farmers to this and other improvements, has received and answered, since the 20th of January last, *sixty-four letters* asking questions in regard to underdraining.

Clover Seed Harvester.—We always hail with pleasure everything which tends to cheapen clover seed, believing that farmers cannot raise too much of this renovating crop. The "Seed Harvester" of Mr. J. A. Wagoner, advertised in this number, greatly lessens the labor and expense of gathering and threshing clover seed, and consequently commends itself to particular favor. Mr. W. will send, gratis, circulars giving full information, to all applicants.

The Genesee Farmer in Oregon. — Our correspondent, G. W. Hunt, of Sublimity, Oregon, writes as follows:

"The *Farmer* is well liked here, although when I commenced taking it my neighbors laughed at "book farming;" but now the scales are turned. I think, had I leisure, I could send you a hundred subscribers. Some of my friends are, at my suggestion, making up clubs. I believe this country is going to beat the world for fine stock. There are parties already gone to the States for pure blooded stock."

Diseases of Horses.—Correction.—In the recipe for the cure of big-head, &c., in horses, furnished by Mr. A. Young, and published in the *Farmer* for May, page 151, an error of considerable importance occurred. One of the ingredients was printed *limestone*, whereas it should have been *brimstone*. The mistake was probably detected by most of our readers.

We would call particular attention to the advertisement of G. Westinghouse & Co., of Schaneotady, N. Y. Their one, two and *three* Horse Powers have no superiors, and all their machines and implements are such as we can cheerfully recommend.

Warren C. Jones, of Mount Pleasant, Iowa, who took the fourth April Premium, in acknowledging the receipt of the books says:

"It would have done your heart good if you could have seen the reception, the opening of the package, and the exclamations of my better half when she discovered that you had not only given full scripture measure, but running over; the joy of Loui over the Shanghai book, and of Olla Stephen, my three-year-old, over the Morgan horses; and even Dora, the baby, seemed to crow more lustily. Your name has found a place in my household that will not soon be effaced."

Corn for Fodder. — We have several communications urging farmers to sow corn for fodder. It does best in drills, so as to admit the use of the cultivator. Sow plenty of seed — say forty kernels to the foot.

Inquiries and Answers.

Sowing Wheat after Wheat. — Will you be kind enough to advise, through the *Farmer*, whether a portion of a field which is now bearing a good crop of wheat will answer to seed again with wheat in the fall? I would rather do this, if so advised, as it would thus form connection with the remaining portion of the field. (*a*) In case you think a second crop of wheat advisable, would it be well to plow the land immediately after the present crop is cut, thereby turning down all the stubble, which, from the abundance of the crop, must be very considerable, and again plowing immediately before seeding? (*b*) The portion of the field now bearing wheat had applied to it, at seeding time last fall, about 275 lbs. per acre Peruvian guano; would another application of guano be a proper manure for a second crop?—or is the opinion of many farmers in this neighborhood correct — that the frequent application of guano will ultimately injure the land? (*c*) A Subscriber.—*Hartland, N. Y.*

(*a*) Under such circumstances, we should have no hesitation in sowing wheat after wheat. Wheat will do as well after wheat as any other crop, *provided* the soil is rich enough. By the aid of judicious manuring, Mr. Lawes obtained a crop of wheat of 55 bushels per acre, on a soil that had grown a crop of wheat twelve years in succession; and last year, after *fifteen successive crops had been removed*, the crop on one heavily manured plot was 50 bushels per acre. There can be no doubt that on a good loamy soil, and with the aid of proper manures, wheat can be grown without any intervening crop. Rotation of crops is not a *necessity*. It is *advantageous*, as enabling the farmer the better to enrich the soil, pulverize, consolidate and clean it.

(*b*) We have had no experience on this point. Should prefer to plow it twice, unless the soil is somewhat light. In such a case, it might be better to cut the wheat pretty close to the ground, and then *harrow* the field, for the purpose of starting the seeds of weeds, &c. We think, however, that it would be in most cases best to plow twice. In sowing wheat after peas, the soil is sometimes so dry that the seed will not germinate. This may be the case to some extent after wheat, and by twice plowing this difficulty would be obviated, and the soil be nearly as moist as after a regular summer fallow. We may remark, although the climate of England is very different from that of this country, that in the experiments of Mr. Lawes, previously alluded to, the soil was always plowed *twice*,—once immediately after the crop was removed, and again just previous to sowing. In addition to this, the crop was hand-hoed twice in the spring.

(*c*) Peruvian guano is as good a manure as can be obtained for the second crop. The idea that guano will injure the land—that it is merely a *stimulant*—rests on no satisfactory evidence. Guano, like common manure, contains *all* the elements of plants, and, with perhaps the exception of potash, soda, and carbonaceous matter, in the right proportion required by most plants. If by the continued use of guano the soil should become deficient in potash and soda, a few bushels of unleached ashes per acre would supply the deficiency, and if it becomes deficient in carbonaceous matter, turn under a crop of clover. In fact, apply the ashes and plaster to the clover, which they will greatly benefit, turn in the clover, and there will be no danger of impoverishing your soil by the use of guano.

In saying this, we do not say that the use of Peruvian guano will be profitable. That is a question the answer to which must depend on the price of wheat. If wheat is worth $1.50 per bushel, the use of Peruvian guano will be profitable; if only 75 cents, it would hardly pay,—unless on soils that without guano would not produce more than four or five bushels per acre.

Will you or some of your correspondents give us the botanical name of pea-nuts; also, some information in regard to their cultivation? (*a*)

Will gypsum incorporated with fermenting manure prevent the escape of ammonia? (*b*)

Do gypsum and ashes, when mixed, have any effect upon each other, chemically? (*c*)

I beg leave to differ with an assertion made in the June number of the *Farmer*, namely, that bones can not be dissolved by moistened ashes. Had the writer of that article been with me at the time I received the June number of the *Farmer*, I could have shown him a small quantity of bones reduced to a jelly by the use of strong oak ashes. Large, hard bones, require some time to dissolve, but they will dissolve eventually. (*d*) M. Garnsey.

(*a*) The pea-nut, or pindar, (*Arachis hypogæa*), like the pea and bean, is a leguminous plant. Of its cultivation we know but little, and should be glad if some of our correspondents who have raised it would give us the desired information. It is grown to a considerable extent in the Southern States, and yields on good soil from 60 to 75 bushels of nuts per acre. The seeds are planted in rows about a foot apart each way. As soon as the flowers appear, the vines are earthed up from time to time, so as to keep them chiefly within the ground.

(*b*) It will not. If the gypsum was dissolved in water, it would do so. Read the article on Manures in the *Rural Annual* for 1858.

(*c*) If they were both dissolved in water, they would be mutually decomposed, carbonate of lime and sulphate of potash being formed. In the dry state, as generally used for manure, probably no change takes place — certainly not to any considerable extent. It requires 400 lbs. of water to dissolve one lb. of gypsum.

(*d*) Strong ashes may remove the gelatine of the bones, and convert it into a jelly, and the bones might crumble to pieces; but they would not be *dissolved* — the phosphate of lime of the bones would still be insoluble.

Grafts from Dwarf Pear Trees, &c. — (J. T. Sergeant.) You can cut buds or scions from your Dwarf trees, and bud or graft them on the Pear stock. The particular kind of stock does not affect the variety of fruit which is worked on it, to any appreciable extent.

Meahan's Hand Book of Ornamental Trees is the best small and concise work on the description and propagation of ornamental trees. Price 75 cents.

BEST VARIETIES OF DWARF PEARS FOR A SMALL GARDEN.—(S. S. Sargeant.) Summer sorts—Bloodgood, Bartlett, Dearborn's Seedling, Tyson. Autumn sorts—Beurre Diel, Belle Lucrative, Duchesse d'Angouleme, White Doyenne, Louise Bonne de Jersey, Seckel, Steven's Genesee, Swan's Orange. Winter sorts—Beurre d'Aremberg, Easter Beurre, Beurre gris d'hiver Noveau, Glout Morceau, Vicar of Winkfield.

ITALIAN RYE-GRASS.—(S. S. SARGEANT.) On very rich land, and in a suitable climate, Italian rye-grass will produce an enormous crop. We have seen it growing near New York, but we believe it does not stand the winters in this section. We should be glad if our readers who have raised it would give us their experience.

DRILLING WHEAT.—I wish to get the experience of your readers on one important question. Is wheat the better for being drilled in than sown broadcast on sandy land? Most of our wheat land in Michigan is sand or gravelly loam. We have not had much experience with drills in this country. J. C.—*Quincy, Mich.*

WILL some of your horticulturists tell me, through the *Genesee Farmer*, whether buds will succeed if set on wood of one, two, or more years' growth, or must they invariably be inserted in the growth of the present season? D.—*Gates.*

CEMENT CELLAR BOTTOM.—Will some one who has had experience, inform me how to make a first-rate cement cellar bottom? Would it be best to cover the sides with cement, or only the bottom? C. N. HOWE.—*Homer, N. Y.*

FOOT ROT IN SHEEP.—I would like to have some correspondent of the *Farmer* give the cause and cure of the disease in sheep, called Foot Rot, and also state whether it is contagious. W. BROWN.—*Clark Co., Ohio.*

Notices of Books, Pamphlets, &c.

THE LIVES AND TIMES OF THE CHIEF JUSTICES OF THE UNITED STATES. By HENRY FLANDERS. Philadelphia: J. B. LIPPINCOTT & Co. 1858.

This is a work which it is unnecessary to recommend. Well written biographical sketches are always interesting, and those of such eminent men as the Chief Justices of the Supreme Court of the United States will be perused with unflagging attention and pleasure. The work consists of two large, handsome volumes. The first contains the lives of JOHN JAY and of JOHN RUTLEDGE, the second those of WILLIAM CUSHING, OLIVER ELLSWORTH, and JOHN MARSHALL.

PEARLS OF THOUGHT, Religious and Philosophical, gathered from Old Authors. New York: STANFORD & DELISSER. 1858.

This is a handsome book, of about 250 pages, filled with short and striking extracts from such writers as Arthur Warwick, Jeremy Collier, Owen Feltham, Bishop Hall, Thomas Fuller, Sir Thomas Browne, John Donne, Francis Quarles, Jeremy Taylor, Pascal, Fenelon, Foster, Goethe, Cecil, Louth, Chalmers, Bolinbroke, Burke, and a score of others, whose thoughts are indeed pearls, and cannot be too often presented to the mind.

JOURNAL OF THE UNINED STATES AGRICULTURAL SOCIETY FOR 1857. Edited by BEN. PERLEY POORE, Secretary of the Society. Washington, D. C. 1858.

This number of the *Journrl* is perhaps the best yet published by the Society. Although it contains little matter that has not been previously given to the public through the press, yet it is desirable to have it in such a convenient form for future reference.

MEADOW BROOK. By Mrs. MARY J. HOLMES, author of "The Homestead on the Hill Side," "Lena Rivers," "Tempest and Sunshine," etc. New York: C. M. SAXTON. 1857.

This is an interesting story in the form of an autobiography of a New England farmer's daughter. We have pleasing descriptions of the quiet life of a New England village; of aristocratic society in Boston; of a farmer's life in Western New York; and finally, of life on a southern plantation. The story is well told, well written, and well worth reading.

A NEW LIFE OF SUMMERFIELD. By WILLIAM M. WALLETT. "SUMMERFIELD was not a man of every day; there is yet fire enough in his ashes to kindle a flame that will be more longer lived than himself."—*Montgomery.* Philadelphia: J. B. LIPPINCOTT & Co. 1858.

We are glad to see a new life of this zealous and eloquent Methodist minister, called for. It is a most interesting work, which no christian can read without having his zeal and energies awakened, and his "inner life" strengthened.

LECTURES OF LOLA MONTEZ, (Countess of Landsfeld.) Including her Autobiography. New York: RUDD & CARLETON. 1858.

This is quite a readable book, and will undoubtedly have a great sale. Besides the Autobiography, there is a Lecture each on Beautiful Women, Gallantry, Heroines of History, Comic Aspects of Love, Wits and Women of Paris, and on Romanism. Price, prepaid by mail, $1.

AQUARELLES, or Summer Sketches. By SAMUEL SOUTH. New York: STANFORD & DELISSER. 1858.

An illustrated poem, designed to show up the forms and follies of modern fashionable life at such watering places as Newport, Sharon, and Saratoga.

URSULA: A Tale of Country Life. By the author of "Aimwell Herbert." "Ivors," &c. In two volumes. New York: D. APPLETON & Co. 1858.

LILY WHITE: A Romance. By EDWARD GOODWIN. Philadelphia: J. B. LIPPINCOTT & Co. 1858.

New Advertisements this Month.

Railway Horse Powers, Threshers, &c.—G. Westinghouse & Co., Schenectady, N. Y.

Delano's Independent Tooth Hay and Grain Rake—D. Landreth & Son, Philadelphia, Pa.

5,000 Agents Wanted—Ephraim Brown, Lowell, Mass.

Wagener's Seed Harvester—J. A. Wagener, New York City.

Old Dominion Coffee Pot—Arthur, Burnham, & Gilroy, Philadelphia, Pa.

Profitable Employment—Robert Sears, New York City.

Durham Bull for sale—C. N. Bement, Po'keepsie, N. Y.

Partner or Agent Wanted—Post Master, Port Royal, Va.

American School Institute—Smith, Woodman, & Co., New York City.

Educational Herald—Smith, Woodman, & Co., N. York City.

Agricultural and Literary Lecturer—James O. Miller, Montgomery, N. Y.

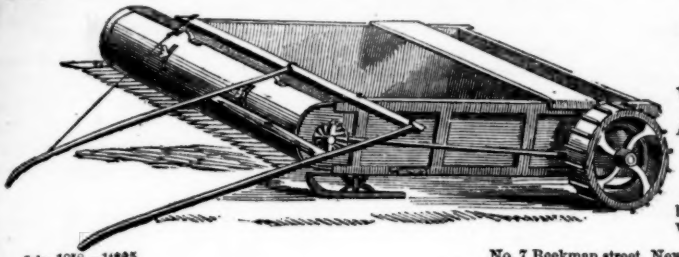
1,000 Agents Wanted—C. P. Whitten, Lowell, Mass.

U. S. Tent and Flag Manufactory—Jas. Field, Rochester, N. Y.

ADVERTISEMENTS,

To secure insertion in the FARMER, must be received as early as the 10th of the previous month, and be of such a character as to be of interest to farmers. TERMS—Two Dollars for every hundred words, each insertion, PAID IN ADVANCE.

PERKIN'S CORN-HUSKING MACHINE. $5 50.—AGENTS WANTED to solicit orders in every town and county. Terms unusually liberal. Address J. PERKINS & Co. June, 1858.—2t* West Killingly, Conn.



July, 1858.—1t*$5

J. A. WAGENER'S

SEED HARVESTER,

PATENTED MAY 24TH, 1858, AND IMPROVEMENTS TO 1858,

Will challenge the world to beat it for its

ABILITY, SIMPLICITY AND DURABILITY,
and
EASE OF ACTION.

Warranted to do the work in best manner, clean and neat, and with speed.

J. A. WAGENER,
No. 7 Beekman street, New York, Nassau Bank Building.

THE "OLD DOMINION" COFFEE POT.

THOUSANDS of this new Coffee Pot have already been sold, and the demand from all parts of the United States is rapidly on the increase. Wherever introduced, it has given the most complete satisfaction.

THE OLD DOMINION COFFEE POT

Makes better coffee than it is possible to obtain in any other way, because, by an ingenious but simple arrangement, the housekeeper may *boil her coffee for any length of time without loss of aroma*, thus securing all the elements of the coffee in their natural and proportional combinations.

THE OLD DOMINION COFFEE POT

Gives a healthy beverage. Nervous, dyspeptic, and bilious persons, who had not dared to use coffee for years, have been able to drink their favorite beverage again when made in this new boiler, and without an occurrence of any of the old unpleasant consequences. It is healthy, because, by the use of a condenser, evaporation is prevented, and the coffee can be boiled long enough to release all the natural elements of the berry, and get them in just proportion in the beverage.

THE OLD DOMINION COFFEE POT

Is the most economical, for, nothing being lost by evaporation in boiling, one-fourth less coffee is required; while the beverage is stronger, more fragrant, and more delicious.

THE OLD DOMINION COFFEE POT

Never fails to do its work right. Cook can not spoil your cup of coffee by neglect or forgetfulness, after she has placed the boiler on the stove or range.

THE OLD DOMINION COFFEE POT

Is manufactured under the patent for the United States by

ARTHUR, BURNHAM, & GILROY,
117 & 119 South Tenth Street, Philadelphia.

☞ Also, manufacturers for the United States, of ARTHUR'S CELEBRATED PATENT AIR-TIGHT, SELF-SEALING CANS AND JARS.

For sale by dealers in Housekeeping articles, and Storekeepers generally. July—1t.

PROFITABLE EMPLOYMENT.

PLEASE TO READ THIS!—Agents wanted!—Extra inducements for 1858! All persons IN WANT OF EMPLOYMENT will at once receive our Catalogue of Books, prepaid, by forwarding us their address. Particular attention is requested to the liberal offers we make to all persons engaging in the sale of our Large Type Quarto PICTORIAL FAMILY BIBLE, with about One Thousand Engravings. On receipt of the established price, Six Dollars, the Pictorial Family Bible, with a well-bound Subscription Book, will be carefully boxed, and forwarded by express, at our risk and expense, to any central town or village in the United States, excepting those of California, Oregon, or Texas. Our books are sold only by canvassers, and are well known to be the most saleable. Address, postpaid,

ROBERT SEARS, Publisher,
July, 1858.—1t No. 181 William Street, New York.

FOR SALE.

THE Short-Horned Durham Bull "Frank," bred by I. F. Sheafe, Esq., New Hamburg, Dutchess county, N.Y. He was three years old last April, is from a good milking stock, has proved a good stock getter, and would be a valuable animal to cross with native cows. As we have no further use for him, he will be sold at a bargain. For further particulars, apply to
July—2t C. N. BEMENT, Springside, Po'keepsie, N. Y.

PARTNER OR AGENT WANTED!

IN every town and county, to act in connection with the advertiser in the REAL ESTATE BUSINESS, which is conducted on a NEW PLAN, so as to be permanent, honorable, and lucrative.

☞ *Salary* $1,000 *a year, or an interest in the business.*

jy 1t* Address POST MASTER, Port Royal, Va.

AMERICAN SCHOOL INSTITUTE,

No. 346 Broadway—Supplies Schools and Families with competent Teachers and Tutors and Governesses, Schools with Pupils, and Teachers with Positions.

PARENTS AND GUARDIANS.

can obtain Circulars and complete information connected with Schools, without charge. Wanted, a PRINCIPAL for a Southern Boarding School, a competent Teacher of Music and Painting. Also, a Governess, to go West. Teachers wishing to obtain Southern and Western engagements, should address us immediately.

SMITH, WOODMAN, & CO.,
jy 1t ex 346 Broadway, New York.

THE EDUCATIONAL HERALD—Is

a monthly journal devoted to Education and the interests of Schools, Teachers, and Pupils. Every Teacher should have it. Price 50 cents per annum; 3 copies $1. Specimen copies sent upon application.

SMITH, WOODMAN, & CO.,
jy 1t ex 346 Broadway, New York.

JAMES O. MILLER,

OF Montgomery, Orange county, N. Y., known as the "Orange County Farmer," grateful for past patronage, renews the offer of his services as a Lecturer at Agricultural Fairs, and before Literary Clubs, upon "Progressive Agriculture," "Horticulture," "The Science of Making Homes Happy," "Charity," "Truth," and "Faith."

TERMS MODERATE.

The Lecture of the "Orange County Farmer," at Clinton Hall, last night, was one of the best treats of the season. Mr. Miller is a young man who only needs to be still better known to become still more popular, for he speaks upon his favorite topics with the vigor and fervor of a devotee.—*N. Y. Daily Times.* jy 1t*

1,000 AGENTS WANTED.—For particulars, send stamp.
jy 3t* C. P. WHITTEN, Lowell, Mass.

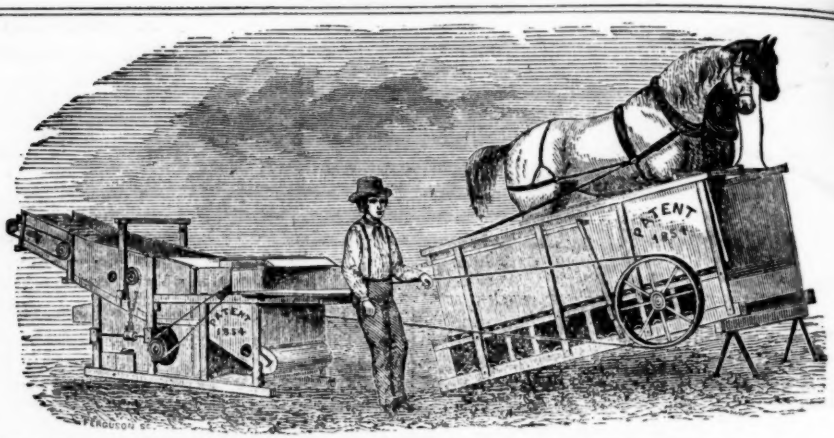
U. S. TENT AND FLAG MANUFACTORY,

No. 12 Buffalo St., Rochester, N. Y.

HAVING purchased the entire stock of Tents and Flags formerly owned by E. C. Williams, I am prepared to rent the same at reasonable rates, for Agricultural Fairs, Military Encampments, Camp Meetings, Conferences, &c., &c.

I will also manufacture, on short notice, Tents, Flags, Awnings, Bags, and everything pertaining to this branch of business.

Address JAMES FIELD,
July, 1858.—3t* Box 701, Rochester, N. Y.



RAILWAY HORSE POWERS, THRESHERS, &c.,

AS IMPROVED BY

G. WESTINGHOUSE & CO.,

And Manufactured by them at Schenectady, N. Y.

WE have made improvements in these Machines which make them superior to any other Machines of this class in use.

THE HORSE POWER is improved by a peculiar construction of the chain, which causes it to keep uniformly tight, and run as smoothly around the circle at the ends as over the straight ways, when drawn up properly by draw screws in front of the power. We fasten the gearing on our powers in such a manner that it can not work loose and come off. The gearing is conveniently changed from one side of the power to the other, and different motions may be obtained by a change of wheels. In most powers of this kind, horses are obliged to walk very fast to give proper motion to the cylinder. We have ours geared so that the horses may walk slow and give a sufficient motion to the cylinder, 1¼ miles per hour being fast enough for threshing dry grain. This is considered important, as horses should walk slow in overcoming an elevation. We make One, Two, and Three Horse Powers of this kind, the One and Two Horse being such as are suitable for farmers' own use, in threshing, sawing wood, etc.

The THREE HORSE POWER is a new thing, never having been introduced to a great extent. It is suitable for those who make threshing their business, and is capable of driving a Thresher and Winnower to thresh from 200 to 400 bushels of wheat per day, when well managed. It is fully equal to the best Six Horse Lever Power in use.

OVERSHOT THRESHERS have been used to a great extent, and driven by One and Two Horse Powers. One great objection to them has been their throwing grain and dust into the feeder's face. We have effectually remedied this defect by an arrangement patented by us. The teeth or spikes of the cylinder are fastened in by a screw and nut on the inside, which prevents their flying out, and are easily replaced when broken off. The bearings in which the cylinder shaft runs (also those of the Horse Power) are constructed so that they may be kept uniformly oiled without waste of oil, and thus prevent the heating or wearing of shaft and boxes. A Ratchet Pulley is put upon the cylinder shaft, which enables the Horse Power to be stopped instantly, without throwing off the belt. It is considered a great convenience by those who have used machines with and without one.

Our SEPARATOR has a Straw Shaker attached, which makes it one of the best Machines for separating grain from the straw: and in separating Clover from the straw, is particularly efficient.

COMBINED THRESHERS AND WINNOWERS, for Railway Powers, have been brought considerably into use, and we have introduced them to some extent in connection with our Two Horse Powers.

Most Machines of this kind are liable to carry over considerable grain in the straw, but we have in ours a wire separator (patented) which will allow less grain to be wasted in this manner than any other Machine It is an Overshot Thresher, and, properly managed, will thresh full as much, and do the work better than any other Machine of this class. The amount it will thresh depends much upon the grain, but will probably be from 100 to 200 bushels of wheat, and from 250 to 350 bushels of oats; yet double these amounts have been done.

We make LARGE UNDERSHOT THRESHERS AND WINNOWERS, calculated for Six to Ten Horse Lever Powers, which have been in use, and made by us several years. They have been well liked wherever used.

Our CLOVER MACHINES hull and clean the seed at the same time, and may be driven with a Two Horse Power. The quantity they will hull depends upon the quality of the chaff and the condition it is in. They have given general satisfaction where used.

We make CIRCULAR WOOD SAWS, for sawing either long or short wood; also, DRAG SAWS for sawing logs, and POWERS for churning with a dog or sheep.

All the above named Machines are made in a substantial and workmanlike manner, and we warrant them to suit the purchaser when fairly tried, or they may be returned and the purchase money will be refunded.

We give a few of the many Testimonials we have received in regard to the working of our Machines, and would ask those who wish to purchase, to make further inquiry of us, or call and see our Machines.

LEYDEN CENTER, Ill., 10th Nov., 1837.

Messrs. G. WESTINGHOUSE & Co.:

I have received the Machine ordered, all right, but too late to do much this season.

I tried it, and it operated first rate. All who have seen it admire it much. Many supposed them to be regular horse killers, and seemed surprised to see my horses work it without apparent fatigue. I think your Machines will take well.

Respectfully, yours, WM. H. GALLUP.

CONQUEST, N. Y., 22d Feb'y, 1838.

Messrs. G. WESTINGHOUSE & Co.:

I presume you have been expecting to hear from me in relation to the Three Horse Power, Clover Huller, and Thresher and Separator. I will say that they work first rate, and the man that runs them says he has never seen a cut seed in the seed boxes of the Clover Mill. It hulls at the rate of one bushel in 25 minutes, dry chaff; but we have a great deal of wet clover to get out. Large quantities are stacked out, and some of it is wet nearly to the ground. We use but two horses to thresh the clover, but when we hull it we put on three.

With the Two Horse Power Thresher and Winnower, I have threshed and cleaned from 40 to 70 bushels of oats per hour, and it did the work throughout the nearest to perfection of any Machine I ever saw, and such is the verdict of all who have seen it run. B. M. CLOSE.

RUSSELVILLE, Tenn., 28th July, 1837.

Messrs. G. WESTINGHOUSE & Co.:

Dear Sirs—I have just been witnessing the operation of your Threshing Machine, the one consigned to JOHN W. BEWLEY, of this place. There were several persons present, all of whom pronounced it the best Machine they had seen.

BENJAMIN SHERWOOD.

This was a Thresher and Winnower combined, driven with our Two Horse Power; and in a conversation had with a partner of Mr. BEWLEY, in December last, he stated that he had threshed 360 bushels of wheat in one day, and at another time a bushel of wheat every fifty seconds.

PRICES.

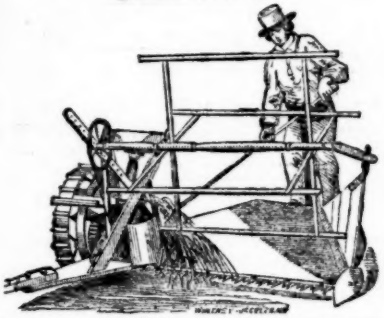
Two Horse Power Thresher and Separator (26-inch cylinder)	$160
Two Horse Power Thresher and Separator (30-inch cylinder)	165
For One Horse Power Thresher and Separator	130
For Three Horse Power	140
For Two Horse Power	115
For One Horse Power	90
For Two Horse Power Thresher and Winnower	240
For Thresher and Winnower (for Two Horse Power)	195
For Large Thresher and Winnower	140
For Thresher and Separator (26-inch cylinder)	45

For Thresher and Separator (30-inch cylinder)	50
For Clover Machine	30
For Circular Wood Saw (24-inch Saw, Railway Table,)	40
For Circular Wood Saw (24-inch Saw, Slide Table)	37
For Drag Saw, for cutting logs	32
For Dog Power, for churning	15

July, 1858.—1t

FOR THE HARVEST OF 1858.

The best Combined Reaping and Mowing Machine in use, as endorsed by the United States Agricultural Society.



Manny's Patent with Wood's Improvement.

It is with much pleasure and renewed confidence, that I offer my machine to the Farmers for the coming harvest, with all its improvements and increased high reputation as a combined Machine and single Mower. The large sale the past season, and great success at the National Trial of Harvest Implements at Syracuse in July last, where it was awarded one Gold and two Silver Medals, is conclusive to every unprejudiced farmer that it is the most approved machine of the kind in use, and the subscriber begs to say that they will be perfect and complete in workmanship and material, and are offered to them on terms accommodating and suited to the times. With each machine will be furnished two scythes, two extra guards, two extra sections, one extra pinion, and wrench.

Warranted capable of cutting from 10 to 15 acres of grass or grain per day, in a workmanlike manner.

Price of Machines as heretofore. The Combined Machine varies in price according to width of cut and its adaptation in size and strength, to different sections of the country, from $125 to $150, delivered here on the cars,

Price of Single Mower, steel bar.....$115.00

WALTER A. WOOD,
Manufacturer and Proprietor,
May, 1858.—tf Hoosick Falls, N. Y.

DELANO'S INDEPENDENT TOOTH HAY AND GRAIN RAKE.

This Rake has given universal satisfaction wherever it has been introduced. The ease and facility with which the hay may be placed in winrows, or bunched or cocked preparatory to loading, with entire freedom from dust; its superiority as a gleaner; the adaptation of the teeth to all surfaces, however irregular; are qualities which commend the Delano Rake, and must ultimately bring it into exclusive use. In short, it is as greatly superior to the revolver or any other, as the revolver was, when first introduced, to the hand rake. We know of farmers who harvest their entire crop of hay by the use of the Delano Rake and the fork alone, no hand rake being needed in the field. Price, complete, $25.

SELF-ADJUSTING HAY ELEVATOR, or Hoisting Fork.

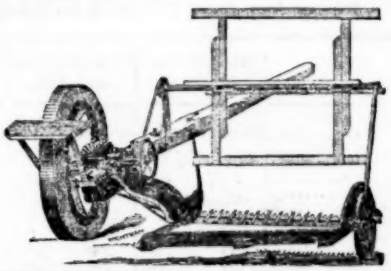
By the use of this simple and low-priced apparatus, a two-horse wagon-load may be unloaded and deposited in the mow, just where it is needed, within ten minutes; and if unusual exertion be made, to avoid a threatened storm, in half that time, the workmen being fresh and ready for re-loading.

Those manufactured by us are of improved construction. We also manufacture the Anti-Friction Blocks to accompany the Forks. As these Blocks can not take fire, they are therefore cheaper than the common low-priced blocks.

Price of Hay Elevator, $8; Anti-Friction Blocks, $5 per set.

Manufactured and for sale by
D. LANDRETH & SON, Agricultural Warehouse,
Nos. 21 & 23 South Sixth St., Philadelphia.

LANDRETH'S RURAL REGISTER AND ALMANAC, published annually, containing a monthly calendar for the Farm, Garden and Greenhouse, *furnished gratis to all applicants.*
July, 1858.—2t.



KETCHUM'S COMBINED HARVESTER FOR 1858.

THE improvements on this celebrated Machine for 1858 will render it the most desirable machine ever offered to the public. Among these improvements are the following:—

1st. An expanding Reel, very simple and ingeniously arranged so as to be readily attached, and is propelled by the main shaft.

2d. A new, strong, and well-braced guard, which will not clog.

3d. An adjustable Roller with a lever, by which the driver, while in his seat, can elevate the finger-bar and hold it in any desired position, for transportation, to pass over obstructions, and to aid in backing or turning corners.

4th. A Roller in the outer shoe, on which the finger-bar rests, which obviates all side draft and very much lessens the direct draft.

The SIMPLE MOWERS have wrought-iron frames, with all the other improvements except a Reel. With these improvements the draft of the KETCHUM machine is as light as any machine known, and by the test with the Dynamometer at Syracuse, by the U. S. Ag. Society last July, the draft of the reaper was more than one-quarter less than any other of the 18 Reapers on trial. This result is obtained by enlarging the main wheel for Reaping, which lessens the motion of the knives and the actual draft of the machine fully one-quarter.

The VERY BEST MATERIAL is used throughout, and no pains or money are spared to made the KETCHUM MACHINE what the farmer needs.

Sample machines can be seen at all the principal places, and persons are invited to examine them before buying any other—remembering that THE BEST IS ALWAYS THE CHEAPEST.

Manufactured by R. L. HOWARD, Buffalo, N. Y.,
May, 1858.—3t (Near N. Y. Central Depot on Chicago st.)

WILLIAM BROWN, COTE DES NEIGES NURSERIES,

MONTREAL C. E.

BALSAM FIR Seed, or Balm of Gilead, $1 per pound.
Hemlock Spruce, $2 per pound.
Warranted fresh and sound.
European Sweet Briar, for Rose Stocks, two years, $5 per 1,000
European Ash, two years, $5 per 1,000.
Acer campestre, English Maple, two years, $5 per 1,000.
The Sweet Briar takes the bud freely for Rose Stocks, and is offered at one-tenth of the price of Manetti Stocks.

WM. BROWN, Nurseryman,
May, 1858—3t Montreal, C. E.

ALBANY TILE WORKS.

Corner Clinton Avenue and Knox Sts., Albany, N.Y.

THE SUBSCRIBERS, being the most extensive manufacturers of Draining Tile in the United States, have on hand, in large or small quantities, for Land Draining, Sole and Horse-shoe Tile, warranted superior to any made in this country, hard burned, and over one foot in length. Orders solicited. Cartage free.

C. & W. McCAMMON. Albany, N. Y,
DAMA & Co., Agents, Utica.
JAS. WALKER & Co., Agents, Schenectady. April—6t

NURSERYMEN, FLORISTS, AND AGRICULTURISTS,

PAUL BOSSANGE, Agent for LOUIS LEROY, of the GRAND JARDIN, Angers, France, begs to announce that he is now fully prepared to execute all orders for Fruit, Forest, and Ornamental Trees, Shrubs, Flowers, &c.

Catalogues of the prices current, embracing shipping and insurance charges, and all other needful information, may be had (gratis) on application to PAUL BOSSANGE,
June, 1858.—4t. 20 Beekman street, New York.

A. LONGETT,

No. 34 CLIFF STREET, NEW YORK,

DEALER in Peruvian, Colombian and Mexican Guano, Superphosphate of Lime, and Bone Dust.
November 1, 1857.—1y.

5,000 AGENTS WANTED—To sell four new inventions. Agents have made over $25,000 on one,—better than all other similar agencies. Send four stamps and get 80 pages particulars, gratis. EPHRAIM BROWN, Lowell, Mass.
July, 1858.—3t*

Prices of Agricultural Products at the Principal Markets in the United States, Canada and England.

	NEW YORK, June 26th.		PHILADELP'IA, June 26th.		ROCHESTER, June 29th.		CHICAGO, June 26th.		TORONTO, June 26th.		LONDON, Eng., June 9th.	
Beef, per 100 lbs.,					$4.50 @	$6.00	$3.00 @	$3.80	$6.00 @	$7.00	$8.25 @	$13.00
do mess, per bbl.,	$10.50 @	$11.50	$15.00 @	$17.00								
Pork, per 100 lbs.,					5.00	6.00	3.00	3.50			10.50	13.00
do mess, per bbl.,	16.00	16.50	18.00	18.50	16.00	18.00						
Lard, per lb.,	.10¾	.11	.11½	.13	.11	.12	.10				.15	.17
Butter, do	.10	.22	.12	.16	.10	.13	.10	.12	.10	.25	.19	.26
Cheese, do	.08¾	.08			.05	.07	.07	.09			.13	.15
Flour, per bbl.,	3.75	7.50	4.37	6.00	4.00	5.25	3.30	4.62	3 60	4.15	5.28	6.00
Wheat, per bush.,	.84	1.80	.80	1.25	.80	1.00	.63	.66	.70	.90	1.17	1.52
Corn, shelled, per bu.,	.70	.76	.64	.71	.55	.60	.46	.56			1.02	1.05
Rye, do	.70	.73	.66	.68	.48	.50	.50	.53	.55		.84	.90
Oats, do	.38	.46	.37	.40	.39	.40	.30	.30½	.30	.32	.63	1.09
Barley, do	.59	.63	.60		.40	.45	.30	.36	.80	.45	.78	1.17
Clover Seed, do	4.00	4.50	4.25	4.37½	3.50	4.00	5.00	6.50	4.50	5.00	5.00	7.25
Timothy Seed, do	2.00	2.25			2.00	2.5.	1.25	1.50	1.50	1.75		
Flax Seed, do	1.80	1.90	1.55	1.60	1.00	1.12½	.70	.90			1.74	1.80
Hay, per ton,	8.00	9.00			5.00	7.00	4.50	6.50	12.00	17.00		
Wool, per lb.,	.24	.46	.27	.45	.20	.34			.16		.26	.32
Wood, hard, per cord,					4.50	5.50	4.00	6.50	4.00	4.50		

CONTENTS OF THIS NUMBER.

A Long Island Prize Farm,..... 201
Do Cereals destroy Nitrogen?..... 202
Suggested Items—No. 22..... 205
Notes for the Month, by S. W..... 205
Management of Permanent Grass Land..... 205
The Good sells the Bad..... 206
Grass Culture..... 206
Applying Artificial Manure to Corn..... 207
Hoed Crops—Clean Culture..... 207
Cultivation of Sweet Potatoes..... 208
Stirring the Soil and turning Manure..... 208
To protect Cucumbers and Melons from the Striped Bug..... 208
Seeding Corn Fields to Grass..... 209
Corn Grubs..... 209
Harrowing Turnips..... 209
Cure for Bots in Horses..... 209
Advantages of Mowing Machines—once more..... 210
How to sow Grass Seed..... 210
Management of Bees..... 211
Farming in Texas—A happy Editor..... 211
To keep Tires tight on Wheels..... 211

GENESEE FARMER PRIZE ESSAYS.

Adorning and Beautifying Farmers' Homes..... 212
On the Duty of Kindness to Domestic Animals..... 212
Stock for a hundred acre Farm..... 213
Buildings and Fixtures for a hundred acre Farm..... 213
Tools and Implements for a hundred acre Farm..... 214
Butter Making..... 214
Raising and picking Geese..... 214
Feeding Corn Stalks to Cattle..... 214
Mules vs. Horses..... 215
On the Construction and Arrangement of Barn-Yards..... 215
Cutting and steaming Food for Stock..... 215
On the best Substitute for Hay in feeding Stock..... 216
On stacking and feeding out Straw..... 216
On the Importance of providing Shelter for all kinds of Stock 216
Keeping Cattle in Sheds the whole Year..... 217
Would it be prudent for Farmers to adopt the Ten Hour System?..... 217
Removing small Stones..... 218
Bean Straw as Feed for Sheep..... 218
Should Cows be milked more than once a day in Winter?... 218
On the Cultivation of Hops..... 219
Does it injure Butter to color it?..... 219
Cellar for a Farm House..... 219
Harrows and Harrowing..... 219
Pasturing Sheep in Orchards..... 220
On stealing Fruit..... 220
Transplanting Trees..... 221
On the best Method of using Liquid Manure for Gardens.... 221

HORTICULTURAL DEPARTMENT.

Summer Exhibition of the Genesee Valley Hort. Society..... 222
The Gooseberry and Currant Caterpillar..... 222
Horticultural Notes from Iowa..... 224
Pears for Market..... 224
Notes from Oregon..... 225

EDITOR'S TABLE.

To our Agents and Friends everywhere..... 226
State Fairs for 1858..... 226
Success of the Genesee Farmer..... 226
Clover Seed Harvester..... 226
Underdraining..... 226
The Genesee Farmer in Oregon..... 226
Diseases of Horses—Correction..... 226
Corn for Fodder..... 227
Inquiries and Answers..... 227
Sowing Wheat after Wheat..... 227
Grafts from Dwarf Pear Trees, &c..... 227
Best Varieties of Dwarf Pears for a small Garden..... 228
Italian Rye-Grass..... 228
Notices of Books, Pamphlets, &c..... 228

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